DAVID HUME'S THEORY OF KNOWLEDGE AND ITS RELEVANCE TO EDUCATION IN KENYA'S SECONDARY SCHOOLS WITH REFERENCE TO BARINGO CENTRAL DISTRICT, KENYA

SAMUEL KUSETEI CHEPCHIENG

A Thesis Submitted to the Board of Postgraduate Studies in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Education in Philosophy of Education of Egerton University.

EGERTON UNIVERSITY

DECEMBER, 2012

DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and to my knowledge has not been presented for a degree or a diploma in this or any other university.

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Samuel K. Chepchieng   Date

EM17/1372/05

Recommendation

This thesis has been submitted for examination with our approval as university supervisors.

_____   _____

Prof. Fredrick O. Ogola   Date

Department of Psychology,Counselling and Educational Foundations,

Narok University College

_____   _____

Dr. Matthew M. Theuri   Date

Department of Commerce,

Kimathi University College

DEDICATION

This work is dedicated to my dear wife, Dorcas.

ABSTRACT

The theory of knowledge as espoused by David Hume is built on the principle of sense experience as a basis of human development. Kenya's secondary schools education appears to have borrowed from various philosophical theories, with Hume's theory of knowledge being one of them. Hence the study aimed at evaluating this theory and its relevance in secondary school education level in Baringo Central District as a point of reference. The study employed descriptive *ex post facto research* design which was supported by the social science survey. Using a simple random sampling technique, 382 students were sampled out of 7137 total student population in the district. They were chosen from 11 schools out of the possible 24 secondary schools. This simple random sampling method was further used to arrive at a sample of 202 girls and 180 boys out of a total of 3546 and 3591girls and boys respectively. Through purposive sampling method, a sample of 66 teachers from various departments drawn from the selected 11 schools was studied. Questionnaire and observation sheet were used to collect data. This enabled the researcher to gather information on the teaching methods, the content of the curriculum, and the role of the teacher and that of the learner in the teaching process. It also assisted in exploring issues of discipline of the learners. The findings of the study yielded both qualitative and quantitative data. The quantitative data was analysed using inferential statistics and it entailed making prediction about the qualities of the total population on the basis of qualities of the sample studied. The qualitative data was analysed through descriptive statistics which involved determining measure of central tendency by finding mean, mode and median. There was also the use of philosophical methods in the analysis of data specially the critical and phenomenological approaches. The critical approach enabled the researcher to make rational judgments in assessing the responses given by the participants. The phenomenological method, allowed a detailed description of what was observed in the field. The data collected was presented using tabulation. The findings are expected to be of great value to all stakeholders namely; the policy makers, students, parents, teachers, researchers and the government agencies in their endeavour to provide quality education. It is expected to help policy makers to know the areas that needed to be reviewed in the secondary school education. In addition, it is hoped that the recommendations made after the study would prove quite invaluable in assisting teachers improve on their teaching methods.

ACKNOWLEDGEMENT

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ABBREVIATIONS AND ACRONYMS

D.E.O   District Education Officer

H.O.D.Q   Heads of Departments Questionnaire

I. Q   Intelligence quotient

K.C.S.E.   Kenya Certificate of Secondary Education

K.N.E.C   Kenya National Examination Council

N.C.S.T   National Council for Science and Technology

S.M.A.S.E.   Strengthening Mathematics and Sciences in Secondary Schools

S.P.S.S   Statistical Packages for Social Sciences

S.Q   Student Questionnaire

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Philosophers have traditionally been concerned among other things with questions about human knowledge. Hospers (1967) discloses that epistemology is the branch of philosophy, which is concerned with the sources, nature, scope and structure of knowledge. Gusmano (1990) echoes that epistemologists ask several questions such as; what is meant by the term knowledge? Is it possible for human beings to arrive at knowledge? How is knowledge attained? Are there specific methods of discovering truth? How can one verify that his or her beliefs are true? Are human senses a reliable source of knowledge? Do human beings get all of their ideas from experience or are they born with particular ideas? Are there objective absolute truths or is all truth relative to the individual or to a culture? Are there any differences between knowing something to be the case and merely believing it to be so? A good example of an epistemologist in modern philosophy is David Hume (Whitehead, 1962). Hume is described as an 18th century British empiricist's philosopher who used Sir Isaac Newton's scientific method of knowledge, as a model to describe how the mind works in acquiring knowledge. The empiricists are of the view that knowledge comes through the senses. In the words of Kneller (1967) these entail the senses of seeing, hearing, smelling, feeling and tasting.

The issue of epistemology is not a preserve of the Western world philosophers because even the traditional African society had a rich philosophical orientation (Kwame, 1987). African philosophical thought is for instance expressed both in the oral literature and in the thought and actions of the African People. There is a great deal of philosophical materials in the proverbs, myths, folk tales, and folk songs, rituals and arts symbols of the traditional African society. The works of some African scholars such as Sifuna (2006) indicates that the traditional African society also had a rich educational background.

Sifuna (2006) puts it that in the traditional African society educators applied various methods of instructions to attain the educational goals that were desired. Children learned through play, participation in work and oral literature. The oral literature referred to includes the use of myths, legends, folk tales and songs and proverbs. Sifuna (2006) maintains that the immediate environment of the people dictated the contents of the curriculum. The children learned about the names of places, trees, animals, rivers, lakes and many others. To crown it all, they were

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taught how to cope with the environment, for instance, how to farm, fish, prepare food, hunt and irrigation.

The main educational goals for Kenya since independence show that Kenya still appreciates the role played by the traditional African education. This is reflected by the Ominde Report (1964) whose objective among others, was to strive for an educational system, which would preserve African cultural heritage. Kamunge (1988) argues that the national philosophy of a country dictates the main aims of education.

The national goals of education in Kenya have continued to evolve over the years as shown by the recommendations of the various commissions formed even prior to independence (1963) For example the Beecher Report (1949) outlines character formation and acquisition of practical skills as the main national educational goal. When Kenya attained political independence there was need for the country to adjust their educational goals to suit their new political status (1963). The Ominde Report (1964) laid the foundation of education pattern for the independent Kenya. The commission was set up to replace the colonial educational policies which were discriminatory in nature against the Africans. An equally pressing issue was to train African personnel to man the vacant positions in the government left by the colonialists. The Ominde Report (1964) lists the objectives of education in Kenya as;

i) Education is a function of Kenya nation; it must foster a sense of nationhood and promotes national unity.

ii) Education in Kenya must serve the people of Kenya and needs of Kenya without discrimination.

iii) Our public schools are instruments of secular state, in which no religion is privileged, but they must respect the religious convictions of all people.

iv) The schools of Kenya must respect the cultural traditions of the people of Kenya both as expressed in social institution and relationships.

v) An excessively competitive spirit in our schools is incompatible with our traditional beliefs and must be restrained. Every young person coming from our school must realise that he/she has a valuable part to play in the national life.

vi) Education must be regarded, and used as an instrument for the conscious change of attitudes and relationships preparing children for those changes of outlook required by modern methods of productive organisation. At the same time, must foster respect for human personality.

vii) A most urgent objective of education is to serve the needs of national development.

viii) Education must promote social equality and remove divisions of race; tribe and religion. It must pay special attention to training in social obligation and responsibility.

ix) An outcome of our educational provision at all levels must be adaptable to change.

The changing social, economic and political needs of the independent Kenya led to the formation of the second educational commission chaired by Ndegwa (1971) and which gives the broad aims of education as follows;

i) Education must serve the needs of national development.

ii) Education must assist in fostering and promoting national unity.

iii) Education must prepare the youth of the country so that they can play an effective role in the life of the nation whilst ensuring that opportunities are provided for the full development of the individual talents and personality of the nation.

iv) Education must in assist in the promotion of social equality and train in social obligations and responsibilities.

v) The education system must respect, foster and develop the rich and varied cultures of Kenya.

The National Committee on Education Objectives and Policies chaired by Gachathi (1976) was the third attempt to review education since independence in Kenya. This Report outlines the national educational goals as;

i) To continue promoting national unity.

ii) To remove social and regional inequalities.

iii) To create an international consciousness.

iv) To make general education give increasing emphasis to adaptability.

v) To make formal education institution, give increasing emphasis on problem solving teaching methods that have a bearing on the real life situation of the Kenyan environment.

vi) To promote the full development of talents and personalities of individuals within the context of mutual social responsibility.

vii) To develop those being educated into useful citizens capable of and motivated towards contributing to the improvement of the nation as whole as well as that of their own welfare.

viii) To instil in the students positive attitudes towards cooperative effort and mutual social responsibility by encouraging the project approach to primary teaching.

ix)   To institute the teaching of religion and social ethics in education system as a basis for the continued survival and enhancement of the quality of life in the society.

x)   To focus education on the basic needs and income earning opportunities for rural areas and to foster changes of social values, aspirations and motivation.

xi)   To make secondary education contribute to the formulation and propagation of a national ethical code based on the values of traditional society bearing in mind that the teaching of religious education should not be regarded as the limit of the schools contribution to ethical education.

xii) To provide for ethical education and training and for such social matters as family life education, issues of the environment and national and international understanding.

xiii) To promote traditional practises that is conducive to national unity.

xiv) To direct the traditional development of the country so as to serve as an effective expression of the values and ways of life of the people of Kenya by adopting the various ethnically based traditional practises as part of a national culture.

xv)   To promote traditional practises that has educational and occupational values.

xvi) To integrate traditional practises with modern scientific and technological developments.

xvii) To codify and use traditional practices which can serve as sources of basic knowledge.

xviii) To identify and catalogue traditional knowledge and theories and integrate such traditional education with the educational practices for lifelong continuing education.

xix) To bring about a sense of dignity towards social service and productive labour through appropriate programmed activities of basic education.

xx)   To enable and motivate Kenyans to utilise the available resources with particular attention being given to subjects which emphasize the national value of such fundamental activities.

xxi) To expose youth to productive labour and to eradicate negative attributes towards work especially manual work.

xxii) To alter attitudes towards careers in agriculture and reinforce changes in aspirations by income redistribution which encourages self reliance, creativity, use of local resources, initiative and appropriate technology.

The fourth educational commission formed to explore the possibility of establishing a second university in Kenya was The Presidential Working Party on the Establishment of a Second University chaired by Mackay. The Mackay Report (1981) recommends the national educational goals as;

i) Education must serve to foster national unity.

ii) Education must serve the needs of national development.

iii) Education must prepare and equip the youth of this country with knowledge, skills and expertise necessary to enable them collectively to play an important role in the life of the nation whilst ensuring that opportunities are provided for the full development of individual talents and personality.

iv) Education must promote social justice and morality by instilling the right attitudes necessary for the training in social obligations and responsibilities.

v) Education must foster, develop and communicate the rich and varied cultures of Kenya.

vi) Kenya is a member of the international community and hence its educational system must foster positive attitudes and consciousness towards other nations.

The fifth attempt to reform education since Kenya attained political independence lead to the formation of a commission which was chaired by Kamunge (1988). This Kamunge Report (1988) stipulates the Kenya's educational goals as;

i) Education helps members of the public know methods of and their specific role in the conservation and enhancement of the environment.

ii) Education provides skills and appropriate technology for effective development of agriculture which is the mainstay of Kenya's economy.

iii) Education provides positive attitudes and habits towards maintaining a clean and hygienic environment.

iv) Education imparts Kenya's social and cultural values as documented in Sessional Paper No.10 of 1965.

v) Education should address itself to the challenges of development and provide appropriate skills and trained manpower required by the economy.

vi) Education equip and prepare the youth with knowledge, skills and expertise necessary to enable them to play an effective role in school and serve the needs of national development.

vii) Education inculcates desirable character traits and values in a learner.

Koech Report (1999) adopts a more innovative and comprehensive approach to education through the Totally Integrated Quality education and Training (TIQET) system of education. Among the key innovations proposed by the TIQET system is first, the expansion of access to basic education from 8 to 12 years. Second, the introduction of modular learning approach in post secondary education. Third step is the introduction of manageable curriculum content at all levels of educational. Fourth, the introduction of limitless opportunities for access to education through expanded alternative and continuing education. Koech Report (1999) argues that the philosophy of education and training must always be in consonance with the national philosophy. This Report outlines the aims of education as follows;

i) The articulation of Kenya's identity and her African world view.

ii) Personal character formation.

iii) Respect for authority, human dignity and equality of individual persons.

iv) Patriotism for the nation of Kenya and desire for its sustainable integration, stability and prosperity.

v) Enhancement moral and spiritual values in interpersonal and inter ethnic relations.

vi) Appropriation of mutual social responsibility and its corporate approach for the common good.

vii) Internationalisation of a positive and lifelong work ethic.

viii) Conservation and maintenance of a clean environment.

ix) Promotion physical, emotional and psychological health of all citizens.

x) Cultivation of national unity in the minds of youth at an early age.

xi) Appreciation of national, regional and global concerns.

xii) Development individual's ability to make rational decisions.

xiii) Respect and appreciate abilities and limitations of persons with special needs.

xiv) Respect for elderly persons and those in difficult circumstances such as those on the streets and AIDS infected and affected individuals.

xv) Creation of a desire for lifelong learning.

xvi) Fostering national unity within a multi cultural diversity.

xvii) Promoting national development and wealth generation through regulated effort to harness conserve and equitably utilise the natural resource for the common good.

xviii) Equipping the youth of this country with knowledge, skills and expertise necessary for the exploitation of individual potential and talent for sustainable quality of life.

xix) Promoting social justice. Moral responsibility and obligations to self and others within the society.

xx) Fostering, developing and communicating the rich and varied cultures of Kenya.

xxi) Fostering positive attitudes and consciousness towards other nations.

There are still very recent ongoing developments in the field of education in Kenya. The unveiling of a thirty five (35) member task force under the chairmanship of Professor Doughlas Odhiambo by the government (The Standard News Paper February 16, 2011) is a clear manifestation that education reform is a continuous process. The taskforce is charged with the responsibility to assess the implication of a new constitution on education and determine the content to be taught in schools. This education taskforce recommends among other changes a shift from the 8-4-4 to 2-6-6-4 system of education .The Professor Doughlas Odhiambo led taskforce on the re-alignment of education sector to the constitution of Kenya concluded that the current system has failed to deliver on practical skills and exploit learners talents. To address the apparent failure by 8.4.4 to exploit talents the taskforce recommends teaching of sports and talents in junior secondary and career specialisation in senior secondary level (The Standard News Paper May 23, 2012).

Hume's theory of knowledge seems to be line with any national education goal which strives to develop the potentials of the learner and equip them with skills and knowledge necessary for survival of mankind as well as nation building. This has been stipulated by the various education reports discussed above. It forms the sixth education aim on the Ominde Report (1964), the Gachathi Report (1976) and the Kamunge Report (1988). The Ndegwa Report (1971) outlines it as the third education aim while the Koech Report (1999) reiterates the same educational ideas in the eighteenth education objective. Hume has a preference for a form of empiricism that stresses on relying on experiences and observation to provide the answers to intellectual questions of all kinds (Norton, 1994). The fact that scientific knowledge taught in secondary schools relies on observation and experience, shows that Hume's theory of knowledge is relevant in secondary education (Popkin, 1982). This is because scientific facts such as alcohol boils at 80 degrees Celsius under normal atmospheric conditions are generally

derived from observation and experience. According to Norton (1994) Hume's ideas in education are well grounded in many subjects in secondary schools in Kenya such as Poetry, Mathematics, physics, chemistry and Morality. K.N.E.C. (2010) reiterates Hume's ideas as it argues that scientific skills are mainly acquired through practical experience.

1.2 Statement of the Problem

There are different methods of transmitting knowledge to learners. Some of these methods demand experiments from the learner, while others require reasoning. These two approaches are common in Kenya's education system. Hume's theory of applying experience in learning situations appears to foster these two methods. There is however inadequate documented information in research conducted in Kenya on how Hume's theory of knowledge has been applied in education in secondary schools. Further, there seems to be some mismatch in regard to the utilization of some of the aspects of this theory in Kenyan secondary school curriculum. The study intended to fill this gap by investigating how Hume's theory of knowledge has been applied in Kenya with special reference to secondary schools in Baringo Central District.

1.3 Purpose of the Study

The purpose of this study was to investigate the relevance of David Hume's theory of knowledge to education in Kenya's secondary schools with reference to Baringo Central District. Hume's ideas were used as a benchmark to discuss educational aims, aspects of the curriculum, and the position of the teacher and the students in the learning process and also the discipline of the student.

1.4 Objectives of the Study

The objectives of this study were:

i)   To assess the extent in which experience as a source of knowledge advocated by Hume is relevant in the current secondary school education in Baringo Central District.

ii) To analyse the level at which Hume's educational aims have been relevant in secondary school education in Baringo Central District.

iii) To evaluate the roles of teachers and students as advocated by Hume and their relevance to what currently goes on in secondary schools in Baringo Central District.

iv) To find out how the content of the curriculum as advocated by Hume can be made more relevant to the current secondary school curriculum in Baringo Central District.

1.5 Research Questions

In an attempt to achieve the above objectives, the research was guided by the following research questions.

i) To what extent does the current secondary school education base itself in the notion that experience as advocated by Hume is a relevant source of knowledge in Baringo Central District?

ii) To what level have Hume's aims of education been relevant in secondary school education in Baringo Central District?

iii) What are the roles of the teachers and students as perceived by Hume and how relevant is this to what goes on in secondary schools currently in Baringo Central District?

iv) How can the content of the curriculum as advocated by Hume be made more relevant to the current secondary school curriculum Baringo Central District?

1.6 Significance of the Study

The findings of this study were anticipated to yield the following benefits;

i) The findings of the study will enable educators understand better any stereotypes which students have concerning science practical.

ii) It was hoped that the study would shed some light on some of the learning methods such as observations, field trips, demonstrations and experimentation hence assisting teachers to improve on their teaching methods.

iii) To aid policy makers to know the areas that require more funding. Once they realise any activity, which promote learning, then they will channel more funds to it. For example, if the study reveals that practical oriented programmes like SMASSE and agriculture projects promote learning then there would be need for them to invest more in such activities.

iv) To assist curriculum designer in having sufficient knowledge. The curriculum designers will know which areas need more time in the school syllabus. They will know whether theoretical oriented or practical oriented subjects should be allocates more time.

1.7 Scope of the Study

The main scope of the study was a detailed scrutiny of the secondary school education in Kenya with Baringo Central District being the point of reference. The researcher appreciates

the fact that Baringo Central District has a similar educational system to that of the wider Kenya. However, to gain a detailed and in depth research then the study concentrated only on one district. An attempt was made to look at the educational goals, the teachers and student role in the learning process, the methods of learning, aspects of the curriculum and the methods of instilling discipline in the student. All these were then compared with Hume's Educational theory.

1.8 Limitations of the Study

The possible limitations of the study were;

i) The results of the study are limited to Baringo Central District and if generalised then with a lot of caution.

ii) It was a bit very tedious to collect data owing to the geographical nature of Baringo Central which is characterised by rugged and poor transport means in some parts of the district. To overcome, this during budget some money was set aside to be used in the hiring of motorbikes so as to access all parts of the district with ease.

iii) The theoretical frame work was based on one philosophical standpoint of empiricism as postulated by David Hume yet it is known that education has more dimensions other than only empiricism one. To overcome this attempt was made to look at the ideas of various education commissions that have been formed in Kenya since independence.

1.9 Assumptions of the Study

The researcher operated on the following assumptions;

i) The respondents gave honest and correct information.

ii) Hume's aspects of education are captured in Kenya's education sytem

1.10 Definition of Operational Terms

In this study the following concepts have been operationally defined.

A *posteriori* knowledge: It is the type of knowledge that relies on human experience. It is believed that the human senses can furnish individual with all the information he/she needs. It is a view, which is held by the empiricists. They refute the idea of man having in-born ideas. In other words, it is empirical knowledge.

A *priori* knowledge: It is the knowledge that does not depend on experience. An individual gains ideas without any sensory experience. It is an idea widely held by philosophers who believe in the existence of inborn ideas, mainly the rationalists. In other words, it is non-empirical knowledge.

Determinism: It is the school of thought that everything that happens must have a cause.

Empiricism: Is defined as the view that knowledge comes from experience via the senses and that science also flourishes through observations and experiments.

Intuitive knowledge: It is the knowledge that comes to an individual without any reasoning. For example a class teacher choosing a prefect from a form one class, who has just reported in the school, may be by intuition. The teacher may look at one student and conclude that he is honest, hardworking, good mannered and hence can make a good prefect. It may later turn out that the teacher's judgments were indeed correct.

Knowledge: Refers to a justified true belief

Particulars: Hume uses this term to show that what really exist in reality are only individual entities. Hume stresses the fact that even though things may exhibit similar characteristics there are differences that exist in each one of them. Every entity has its own unique characteristics.

Theory: It implies somebody's creative ideas. It is the opinion of somebody concerning certain issues for example the Hume's theory of knowledge discussed in the study.

Treatise of Human Nature: refers to Hume's works. These are the ideas of Hume as reflected in his writings between the years 1739-1740.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of related literature on the subject of theory of knowledge and education. The areas that are captured include origin of knowledge, acquisition of knowledge, forms of knowledge and Hume's ideas on education. The theoretical framework and conceptual framework are presented towards the end of the chapter.

2.2 Meaning of Knowledge

Hacker (1990) stipulates that for any activity to qualify as knowledge it must fulfil three conditions namely; belief, truth and justification. These three conditions aid in gauging those aspects of human life that constitutes knowledge and those that are not. Bennaars and Njoroge (1986) concur that knowledge refers to justified true belief. They view belief as the first step in knowledge. In this case belief is viewed as a strong conviction and not a mere opinion. For example, if one says, he/she believes strongly and convincingly that it will rain tonight then it shows that he/she has a very strong conviction that it has to rain. The utterance might have been made after one seeing very thick clouds on the sky. According to Hume, belief is a special sort of feeling. He argues that when a person compares a proposition which he/she belief with another about which he/she has no belief, it does seem to be true that the two propositions evoke different feelings. Benton (1960) contends that belief manifests itself by a person's decision and the degree of confidence or hesitation he/she has towards certain issues. For example, parents show their belief in teachers by sending their children to school to be taught.

The truth is the second step in determining whether something qualifies as knowledge or not (Hospers, 1967). He highlights three ways in which the word truth might be used. First, is that the word truth is used to show something genuine or emphasis a certain statement. For example, following the ideas of Hospers (1967) if an individual says that he/she possesses a true Egerton certificate then it means that he/she has a genuine Egerton certificate. It is not a counterfeit certificate. He further argues that the word truth is used to stress a certain point. For example, if a person says that, Daniel is his/her true friend then it means that Daniel is really a friend. Hospers (1967) goes ahead to argue that a true proposition describes the actual state of affairs. For example, if it is a fact that one owns a mobile phone and he/she says to another person that he/she has a mobile phone then his/her statement is true because it correspondents with facts. Hamilton (2003) argues that sometimes the coherence of

propositions is what constitutes the truth. For example, if twenty witnesses who do not know each other testify independently to have seen Mr. Juma breaking into a shop last Sunday evening and all say the same thing without having any conspiracy with one another then their testimony is assumed to be the truth. Thirdly, Hospers contends that truth signifies what works. For example, if a driver thinks that it is a certain bolt which is faulty in his/her vehicle, then this can be proved to be true if it is changed and the vehicle starts working.

The third requirement for anything to qualify as knowledge is justification (Bennaars & Njoroge, 1986). This implies that if someone claims to know something to have true belief then he/she must be able to give reasons for his/her claim. The individual concerned must have evidence to support his claims. Shand (2003) concurs that in judging persons by their belief it is demanded that they be justified in believing as they do and not achieve truth by lucky guesses. Benton (1960) summarises that a belief, which is correct but based on no evidence, cannot be counted as knowledge. From the ongoing argument, it is explicit that an individual must be ready to review his/her knowledge from time to time in light of new evidence. For instance, if earlier belief held that there are eight planets in the universe while the latest discoveries suggests otherwise, then the individual must change his/her knowledge to be in line with the latest research discoveries. There are divergent views from various scholars on the issue of justification.

Huemer (2003) claims that it is possible for one's belief to be justified and true, however fail to count as knowledge. To illustrate this point one may imagine two job applicants, Ben and Peter. Suppose Peter has evidence that it is Ben who will get the job. Imagine that one of the requirements of the job is having a university degree. Peter had earlier checked Ben's documents and realised that he has a University degree. Hence Peter has strong evidence to belief that Ben will get the job. However supposed it was unknown to Peter that the certificate, which Ben had, was not genuine. Possibly both of them may fail to get the job. This is clear evidence that it does not always follow that justified true belief yields knowledge. Shand (2003) agrees that justification is not always necessary in all issues to qualify as knowledge. There are situations when a person has knowledge without knowing completely its source. Shand (2003) contends that this happens when the source of the evidence for our belief is completely unrecoverable. Shand`s (2003) argument seems to be true for facts one has received from other people. For example an adult might have known long time ago from his pre-school teacher that Kwame Nkrumah died in 1971; it may be difficult for that individual to identify

the evidence for the teacher's claim. Some other scholars view knowledge from pragmatic perspective.

According to Teichman (1995) real knowledge includes practical skills; human knowledge is what works in practice. Real knowledge entails practical skills like knowing how to ride a car, to mend a broken chair or to write. Teichman (1995) further argues that certain practical knowledge is instinctive for instance a baby naturally knows how to suckle without any skills. Other authors have attempted to show the link between knowledge and epistemology.

Sadker (2000) clarifies that epistemology examines the nature and the origin of human knowledge. According to Stumpf (2002) epistemology is a term that is derived from Greek words *episteme* (knowledge) and *logos* (account). Epistemology studies the way in which a human being knows the rules by which he/she reasons, the limits of what he/she can know and the criteria or standards he/she uses for judging whether something qualifies as knowledge or not. The primary purpose of epistemologists is to examine human knowledge. Hospers (1967) affirms that epistemology examines the sources of knowledge, its nature and various kinds. The epistemologists critically examine issues of knowledge as explained below.

According to Gusmano (1990) epistemologists such as Hume ask the following questions:
i) What is meant by the term knowledge?
ii) Is it possible for human beings to arrive at knowledge?
iii) If so, how is knowledge attained? Are there specific methods of discovering the truth?
iv) What is meant by the term 'truth' and how is it known if one has arrived at it?
v) Are human senses a reliable source of objective information of reality?
vi) Can the concepts of reason, logic and mathematics grasp the nature of reality?
vii) Do human beings get all of their ideas from experience or are they born with certain ideas?

A human being is endowed with a critical mind (Ogolla, 2003).That explains why the epistemologists ponder over several questions. It is this critical nature that provokes man to ask himself or herself several questions in his or her day-to-day life. And the above-mentioned questions are just but a few.

2.3 Forms of Knowledge

Hamilton (2003) mentions various schools of thought that attempts to explain the concept of Knowledge such as empiricism, rationalism, idealism and existentialism. However due to the nature of the topic of discussion, empiricism will form the basis of any argument made. Hume's views on the acquisition of knowledge, experience as a source of knowledge and the subject of particulars and universals are addressed in the subsections 2.3.1 to 2.3.3 respectively.

2.3.1 Acquisition of Knowledge

The empiricist believes that all knowledge can be traced to sensations and reflection upon them (Sadker, 2000). The empiricists are of the idea that the process of knowledge begins with the five senses. These senses provide simple ideas such as red, hard, sweet and many others. After receiving the simple ideas the mind begins to synthesise them. In other words the mind joins the separate ideas together in unity. The mind makes comparison and judgement such as a lemon is bitter than an orange. According to John Locke, through this kind of reflection the mind can grasp abstract issues such as those developed in mathematical symbols (Gusmano, 2003). In the paragraph below, Hume's assertion that impressions and ideas form the atoms of the mind has been captured.

Hospers (1970) highlights that according to Hume there is no idea without impression. A person must first have the impression in order to have the idea. A person born blind for example could never have the idea of any colour because he/she has never had any sense impression of colours. Similarly, a person born without a sense of smell has no idea of odours. Likewise a person who has not experienced hunger can never have the idea of hunger. The author explains the central role played by experience in the acquisition of knowledge but does not relate it to education in secondary schools.

According to Hume all perceptions are of two kinds, impressions and ideas. The former are more forceful and lively when they appear in consciousness while the later are 'the faint images of impression' in thinking and reasoning (Wolff, 1995). Another scholar White (1991) concurs that impression encompasses all more lively perceptions when one hears, sees, feels, loves, hates, desires or wills. On the other hand, White highlights that ideas include the less lively perceptions of which one is conscious when he/she reflects on impression. They are what those impressions are like when one thinks about them after the experience. For example, if one looks outside his/her room through the window the vivid sights he/she gets will form what

Hume called impressions. However, if after sometime he/she reflects on these impressions it will be less intense. Hence, according to Hume they will be known as ideas. In summary genuine knowledge comes through the senses. Objects in the outside world produce impressions in person's minds which he/she retains in less vivid form as ideas. White (1991) reports that according to Hume this knowledge enable human beings make synthetic statement such as sugar is sweet while malarial pills are bitter. Hume's explanation of how complex ideas are arrived at has been discussed in the paragraph below.

Grayling (1995) brings in simple impression and a simple idea. Grayling (1995) that argues Hume contended that every simple impression has a simple idea corresponding to it and vice versa. However, this is not the case with complex ideas because these can be built as a result of person's power of imaginations. Hume argues simple impressions come first through experience and one only has an idea if it derives from original impression. Hume believes that the contents of the mind ideas are copies of sense impressions and are therefore mental pictures. If one looks at a television set he/she closes his/her eyes and think of it, the resulting mental picture is a complex idea. It is constructed out of a component of simple ideas. The simple ideas themselves are derived from simple impression. Hume believes that through these simple impression and ideas one can easily imagine very complex ideas that he/she has not yet ever seen. For example having seen Nairobi city and how it looks like, a Christian can easily imagine the New Jerusalem written in the Bible with streets adorned with gold. This idea of New Jerusalem is a complex one. In the way when the eyes sees a tree that is a simple idea, however, if later it configures that the tree can be timber, charcoal or medicine then that is a complex idea. Hume affirms that it is possible for minds to produce what does not exist in reality. This has been captured in Hume's explanation of the idea of 'self' discussed below.

Hume thinks that one's minds sometimes imaginatively produces ideas of objects that do not exist in reality. White (1991) clarifies that Hume is sceptical about the idea of 'self'. According to Hume there is nothing like 'self' in reality. It is something, which ones mind fabricates. He believes that human beings have impressions that come from their experiences of actual objects but their imaginations combine these to produce impressions and to create fictitious idea of 'self'. He further expounds that one cannot find anything he/she can point to as the 'self' that is the source of whatever impressions lead us to say 'I'.

2.3.2 The Role of the Experience in Acquiring Knowledge

The theory of empiricism is mainly associated with British philosophers. Stumpf (2002) reiterates that John Locke, George Berkeley and David Hume are the chief proponents of the theory. Russel (1979) regards Locke as the founder of empiricism. Wolf believes that it is Hume who took the theory to its logical conclusion. Kneller (1967) adds that even Francis Bacon and John Stuart Mill qualify to be termed as empiricists. It is worth noting that Kneller also views Jean Jacques Rousseau as an empiricist in the field of education. Kneller's stance therefore conflicts with that of many philosophers who view Rousseau as an idealist. Empiricist is the philosophical outlook that stresses the importance of basing knowledge on objective, observable facts and physical evidence (White, 1991). In the words of Gould and Kolb (1964) empiricism is the thesis that firmly believes there is nothing in the intellect that was not perceived before through the sense. They accept a posteoriori knowledge. Stumpf (2000) reinforces that empiricists affirms that while human beings may use their minds to process sense experiences and draw conclusion from it, any ideas that cannot be traced back to sense experience cannot be considered knowledge. According to the empiricists theories all genuine knowledge must be grounded in experience. In the next paragraph the views that the empiricist have on a *priori* knowledge has been discussed.

The empiricists refute the possibility of innate ideas. Gusmano (1990) elaborates that Locke rejects the theory of innate ideas and perceives the mind to be like a *tabula rasa* (A blank slate) at birth; therefore, all ideas come from experience and subsequent reflection on experience. Grayling (1995) maintains that Locke supports the idea that people are born with a capacity of acquiring knowledge just as in normal circumstances people are born with a capacity to digest, see, walk and learn languages, all of which they come to do if they develop in the normal way. However, Locke's official line is that all knowledge is derived from experience that is entirely a *Posteriori*. The concern of this thinker has been broad issues of a *posterior* knowledge without the specific focus on how this has been relevant to education in secondary schools.

2.3.3 Hume's Theory of Knowledge and the Subject of Particulars and Universals

The thinkers of seventeenth century (Descartes, Locke & Hume) were concerned with the creation of division between appearance and reality (Francks, 2003). In other words, these thinkers were concerned with the way things seem to human beings and the way they really are in themselves. Francks (2003) claims that Hume's ideas concerning appearance and reality cannot be discussed separately from the ideas of other empiricists such as Locke and Berkeley.

This is because in the argument of appearance and reality, Locke and Berkeley laid the foundation while Hume developed the argument to a logical conclusion. This is aptly captured in the way the three philosophers handle the subjects of particulars and universals as discussed below.

Hospers (1970) highlights that according to Locke, in nature there are no concepts but only particulars. In reality, there are only particulars but in one's minds, there is something else known as concepts. In the words of Locke, general words like blueness, straightness are names of concepts but these occur in one's minds not in nature. In the paragraph that follows a discussion has been made explore the ideas of other empiricists.

In the view of Stumpf (2002) Berkeley takes a different perspective. According to Berkeley, all reality is mental. Human beings perceive qualities not things and those qualities are subjective as it depends on the observer. Berkeley is known for his denial of the existence of matter and he maintains that material objects only exist through being perceived. To Berkeley a tree for instance, would cease to exist if no one was looking at it. Berkeley believes God always perceives everything. If there was no God what human beings take to be material object would cease to exist. To Berkeley, in reality, there are only particulars but in ones minds, there are only images not concepts (Hospers, 1967). According to Berkeley when one conceives of a triangle he/she has in his/her mind the image of some particular triangle for example isosceles or an equilateral triangle. When a person talks about triangle, in general he/she uses the image he/she has of a particular triangle to represent any triangle.

Grayling (1995) writes that according to Berkeley, the only things that exist are minds and their sensations. To be, according to Berkeley, is to be perceived; he believes that there are no physical things a part from their perceptions. In other words, there are no physical substances apart from the underlying appearances. By Berkeley rejecting material substance it does not mean that he rejects the reality of the world (Gusmano, 1990). In his view; trees, stones, apples and buildings exist but they are nothing apart from sensations of the mind. In short, his position remains as to be, is to be perceived.

Hume agrees with Berkeley that there are no abstract general ideas. Copliston (1963) maintains that Hume believes that a person has no idea of substance apart from collection of particular qualities. In other words if a pre-school child comes across the word cow he/she may ask

his/her teacher what it means. The teacher may explain its meaning by description. He/she may use words like 'milk', 'domesticated', 'hide', 'farmers' and so on. The child cannot understand the description unless he/she understands the meanings of the terms employed. In short, Hume holds that everything, which exists, must be individual and universals does not exist. For example, the universals "An African" and "European" do not exist in reality as they may not represent any particular man at all. What exist in reality therefore is a particular individual with his/her unique characteristics such as short, tall, black and the like.

Copliston (1960) reinforces the ongoing argument by saying that Hume admits that what human beings view as general ideas though they are in themselves particular images may become general in their representation. Hume is of the idea that when there is a resemblance between things which one often observes, one is used to apply the same name to them all. This is in spite of whatever the difference between them may be. For example, one may use a word like 'people' in spite of the difference between children, men, women or ethnicity. Hume uses the argument of the subject of particulars and universals to explain about morality. However, the author did not illuminate how these Hume's views on the subject of particulars and universals have been relevant to education in secondary schools. This paper therefore assists in achieving this missing link.

In the words of Francks (2003) Hume draws the conclusion that morality and values of every kind like colours, tastes and feelings belongs, to the realm of appearance. According to Hume goodness and badness, vice and virtue, never exists in the world, they are just ones mere reactions to what takes place in the world. To further explain this, Hume says that people describe somebody as morally good or bad by examining his/ her action. For example, if someone assists a beggar, people say he/she has done a good thing. Hume observes that such description is confined to the qualities of the action done. In other words, such descriptions are mere subjective judgment of an individual and not the objective element of reality. He was of the opinion that, there is nothing rational about such judgment. These works assist in shedding light on how Hume views issues of morality but does not integrate education in secondary schools.

2.4 Hume's Views of Education and its Relevance to Education
Behind every school and every teacher is a philosophy of education that influences what and how students are taught (Sadker, 2000). Hume is a great champion of rational understanding

and the enemy of superstitions (Francks, 2003). In the Treatise of Human Nature, Hume compares himself with Sir Isaac Newton the proponent of the gravitational theory which explained objectively the idea of falling objects. Following the same line of thought, Hume argues that it is possible to come up with a set of laws to explain the operations of human thoughts and actions. Benton (1983) aptly captures this by arguing that Hume uses Newton's scientific method, as a model to describe how the human mind works. Hume contends that the only way to understand human nature is through experience. He further explains that through a systematic and objective study of human life, for instance, studying how one feels, how one act and how one thinks; a valuable understanding of human nature is gained. The subsequent argument below highlights the issue of cause and effect.

Popkin (1992) describes how Hume conceives the idea of causality. As for Hume the mind makes a constant conjunction between two events and deduces that one event causes the other. He alleges that man is fond of making the assumption that the future will always be like the past. Gleanings on Hume's ideas White (1991) postulates that one's mind having seen things constantly conjoined in the past creates the fiction that the future will repeat the past. He/she thinks that one event causes the other always. For example, geographers having watched cumulonimbus types of clouds causing heavy rainfall, always expect heavy rainfall whenever cumulonimbus clouds gather in the sky. Hume believes that nature has kept a lot of secrets and offered human beings only the knowledge of a few superficial qualities of objects (Gusmano, 1990). For example, senses inform one only of the colours of a piece of cake. However, it cannot inform one the qualities, which make it, fit for the nourishment of the human body. In such a case, therefore, one always expects effects similar to those, which he/she has experienced before to follow when one eats a cake. When one eats a cake, which is similar to the one he/she had eaten before, he/she expects to get the same nourishment for their bodies from it. Wolff (1995) sees a lot of sense in these ideas of Hume for he argues that people cannot lead their lives without making some predictions every day. As discussed in the subsequent paragraph Hume cautions people against the dangers of such kinds of assumption.

In the view of Hume by the fact that human beings have seen the sun rise every morning, there is a likelihood of expecting it to rise everyday in the morning (Norton, 1994). However in his view, human beings have no empirical proof for such claims. Hume argues that even if a person had observed the sun rise every morning for centuries, it is still logically possible that it would one day fail to rise. Alternatively if a farmer is observed to wake up every morning and

feed his cow, then in the view of Hume it is not right to expect the same trend to continue always. The farmer might one morning, wake up and slaughter the cow instead of feeding it, as one would have predicted. This confirms that there is no certainty that the future will resemble the past. Whitehead (1962) asserts that the fact that two events have always been conjoined does not necessarily mean they will be that way forever. Hume points out that it cannot really be known with certainty by induction that the future will always resemble the past. Rather he maintained that a person's beliefs are more as a result of accumulated habits developed in response to accumulated sense experiences. Grayling (1995) summarises Hume's ideas on the subject of causality. Hume argues that the idea of causality is basically gotten from experience not on rational principle or innate ideas. There is nothing in the nature of one's ideas, which determines this connection and one's, use of them in drawing inferences. It is purely based on experience. This implies that according to Hume, scientific laws are got from experience and they yield only probable knowledge so they are therefore receptive to changes or new discoveries.

Hamilton (2003) concurs with Hume's belief that because people have seen certain events causality conjoined; they become habituated to expecting a certain regularity to always continue. For example, in the view of Hume if people have always seen vehicles overturning whenever they over speed, they form the habit of expecting any vehicle to overturn every time it over speeds. Sadker (2000) contends that Hume's stance has led to the empiricist doctrine that, knowledge is gained most reliably through scientific experimentation.

2.5 Hume's Proposed Curriculum

In the subsections 2.5.1 to 2.5.5 below the aspects of Hume's curriculum are captured. This includes aims of education, the scope of the curriculum, the methods of teaching as well as the role of the teacher and the learner in the learning process.

2.5.1 Aims of Education

Education as perceived by the empiricist such as Hume is aimed at training man's faculties (Dewey, 1966). Hume believes that man is born with ready-made powers waiting to be exercised and trained. He adds that the forms of powers in question are such things as the faculties of perceiving, retaining, recalling, associating, attending, willing, feeling, imagining, thinking and many others. As for him the most important thing for education is to exercise or practice such faculties until they become refined and perfected. Hume believes that a person's

faculty of thinking can be trained by repeated exercises. He claims that mathematics could train one's faculty of thinking very well. The debate here is that, mathematics enables students to exercise their minds and to observe the connection of ideas thus developing their faculty of thinking. To sum it all in the words of Hume mathematics shows the student that he/she cannot expect to reason well in all things without practice. Hume contends that human beings cannot profit from other men's opinions until they themselves see it with their own eyes and perceive it by their own understanding. Hence there is need to perfect one's own reasoning faculties. As discussed below, moral education plays a pivotal role in empiricists' education.

The empiricists recognize the role of moral education (Francks, 2003). Hume postulates that the chief aim of education should be moral education. Ozman and Cravers (1995) affirm that according Hume good character is superior to intellectual training. Curtis and Boultwood (1965) concur that the cultivation of good habits and the production of character are prime aims of Hume's education. Norton (1994) highlights Hume's view of morality. According to Hume morality is not a matter of reason. Hume asserts that one's rational understanding can only tell one how to do things but can never tell one what to do. Reason furnishes one with facts about the world, but cannot dictate to one the right actions to do. Hume contends that it is only ones desires that normally determine his/her actions. According to Francks (2003) that could be the reason why Hume emphasises on the use of reward and punishment in shaping the desires of learners in a positive way. The authors paid close attention to issues of morality; but they did not discuss how Hume's views on morality have been taken in secondary school's curriculum.

The empiricist's places great stress on the study of fundamental facts about the universe (Ozman &Cravers, 1995). They stress on the study of basic facts both for the purpose of survival and the advancement of technology. They strongly believe people cannot exist without knowledge of basic facts such as balanced diet, diseases control, natural calamities and the like. Hume argues that intellectual training got from education enables a man to know how to do things. For example, educated individuals are better placed to control natural disaster such as floods because they can predict and prepare ahead of time. The issue of specialisation in education has been discussed below.

The empiricists argue that education should develop technical skills and hence produce specialists and scientists. Ross (1969) argues that according to empiricist, education should be directed towards a certain calling in life that is, should be vocational in character. The professor

Doughlas Odhiambo led taskforce on re-alignment of the education sector to the constitution of Kenya, criticised the current education system for failing to deliver on practical skills (Wednesday, May 23-2012). This study therefore strives to make its contribution on how to improve the current system of education.

2.5.2 The Scope of the Curriculum

Hume advocates a curriculum that includes a wide range of subjects as opposed to the study of one or two different branches of teaching (Neurath, 1882-1945). He supports a comprehensive curriculum, which exposes the students to diverse issues as opposed to narrow specialization. Hume regrets that more people cannot have enough leisure time to examine many branches to knowledge and to experience the various ways of inquiry and reasoning necessary in wide studies. The purpose of education according to Hume is not to make students perfect in one area but to open their minds so that they can handle different issues since the exploration of alternative possibilities is a key cognitive goal of education (Curtis & Boultwood, 1965). His emphasis of all round education is evident in his principle of hardening both the body and mind of the child. Hume would accustom the child to discomfort, problems and evils to be encountered in the adult world. However it is stressed that in the process of hardening the child, his/her health should be safeguarded. For example Hume believes the child should be allowed plenty of sleep and time for exercises.

Curtis and Boultwood (1965) mentions the specific subject advocated by Hume as follows Languages, Astronomy, Geography, Chronology, Anatomy, History, Arithmetic, Religious Education, Writing and physical exercises such as dancing, fencing, riding and other useful practical skills. The authors have given an elaborate explanation on how Hume stresses holistic approach to education; however, its implementation in secondary schools in Baringo district has not been highlighted.

2.5.3 Hume's Methods of Teaching

The learner is expected to learn practical skills such as carpentry, gardening, ironwork and fencing through apprenticeship (Curtis & Boultwood, 1965). The two authors clarify that the teaching of a particular industrial or craft can be through apprenticeship. According to Hume the master in any field of specialisation, for instance, farming should allow their trainees to learn through observation. The trainees observe how the farmer (specialist) works and in due course they would begin to master how farming activities are carried out. These studies are

useful in informing us on Hume's methods of teaching but they do not expound the extent to which these methods have been utilized in secondary school education, something that this study attempts to achieve.

Moral education is imparted through examples (Curtis & Boultwood, 1965). Hume points out that parents and teachers are expected to be role models to their children/students. This is because of the fact that young people learn more through example than mere rhetoric's. Hume argues that children growing up in an environment where elders practice virtues always are most likely to adopt good behavioural traits. This is as opposed to those who grow up in school/homes where virtues are only practiced when there are visitors. Francks (2003) captures Hume's ideas on moral education. According to Hume moral education can be achieved through reward and punishment. This is because Hume believes that children learn vices and virtues through association (Norton, 1994). In the opinion of Hume, children learn to associate vices with suffering in the society while at the same time associate virtues with joy in the society through punishment and reward. For example if a child is reprimanded for mischief then he/she will always associate mischief with discomfort. The child therefore realises that it does not pay to be mischievous hence avoid the vice completely. On the other hand if a child is rewarded for helping a needy person in the society then the child will learn to associate acts of benevolence with joy. The child will feel encouraged to do more acts of benevolence so as to get similar joy. Hume argues that education and training should reinforce the association in such a way that children learn to react with displeasure to all kinds of actions that are socially harmful. The authors never talked about how this Hume's principle of association has been employed to enhance the instilling of virtues in students in education in secondary schools.

Ozman and Cravers (1965) documents Hume's proposed teaching methods as: lecture method, the use of play, scientific research, constant conversation and the embracing of modern technological breakthrough such as the computer technology. It is noted that Hume supports lecture method because it exposes the learners to facts about the universe. Hume thinks that play is a distinct aid in learning. Ozman and cravers (1995) purport that this perception is widely accepted in many sectors because; it is in tune with the psychology of children. Ozman and Cravers also mention that Hume's value for precision and order. In the opinion of Ozman and Cravers Hume's desire for order and precision is found in such practices as ringing bells, set time periods for study, daily lesson plans and departmentalisation. Furthermore, the two authors are explicit on the use of IQ tests by Hume. Hume supports the use of IQ tests,

standardised achievement tests, diagnostic tests and competency tests. According to Hume students ought to be grouped on the basis of intelligence. Hume's perspective of field trips and observations are captured below.

Hume insists that learners should be presented with real objects in order to understand more, the content of the subjects being taught (Dewey, 1966). This is because Hume believes that knowledge comes from the impression made upon people's minds by natural objects. In other words what a person receives through the senses enables the mind to come up with ideas such as the sky is blue or a certain cloth is rough in texture. Hume therefore is of the idea that without the use of tangible objects in the field of education, then it is impossible to procure knowledge. For this reason, Hume has greater regard for observation of things directly and through pictures and graphic description because it facilitates learning. As viewed by Dewey, Hume has very little regard for verbal symbolisation as they deny the learner to observe what is being taught and so no meaningful learning is gained.

The teaching of language such as English, French and Latin is emphasised by Hume (Ozman & Cravers, 1995) who cautions that the right way of teaching a language in early years is by talking and not by grammatical rules. The study of grammar is for the mature students. In a subject like geography, Hume stresses on constant use of the 'globe'. The learner should learn latitude, longitude, and boundaries of countries, Bays, Rivers, straits and promontories in the World. Hume values religious education. Hume argues that this acquaints the learner, with the natural feature found in the environment. The teacher is expected to train the children in religious matters (Curtis & Boultwood).

2.5.4 Hume's Contextualization of the Teacher and the Learner in the Education Process
It is the teacher's task to show pupils how to exercise judgment in reading for few young people have the ability to weigh up written argument without help (Curtis & Boultwood).The two authors further comment that since Hume holds that the best teaching is achieved by example, the protection of the pupil from bad company and undesirable example should be the prime task of the teacher. The teacher ought to be exemplary in his/her conduct so as to be emulated by the students. As discussed below the empiricists do not have any room for abstract ideas.
The teacher is called upon to abandon abstractions and concentrate on realities (Ross, 1969). The teacher is expected to present to the learner issues of the universe as they are in reality.

There is no room for abstract and speculative thinking in the learning process. In the words of Hume, all that an educator needs is an objective and a scientific presentation of common facts of human life (Francks, 2003). The following paragraph underscores the role of order in empiricists' education.

The argument advanced by Ozman and Cravers (1965) is a manifestation that empiricists' school of thought demand order from the teacher. The teacher is expected to present material in a systematic and organized way. The teacher is also expected to promote the idea that there are clearly defined criteria one can use in making judgments. For instance, whether a given education activities are worthwhile. These include the type of material presented, how it is organized, whether or not it suits the cognitive ability of the child, and whether the delivery system is suitable and whether it achieves the desired results.

2.5.5 Relevance of Hume's Ideas to Secondary School Education.
K.N.E.C (2007) echoes Hume's assertion that knowledge is gained mainly through experience. It is argued that for learners to understand all the subjects taught in secondary school, they must engage in thorough practice. In the words of K.N.E.C (2007) the scientific approach which Hume also advocates is the recommended method worldwide for teaching of sciences such as Chemistry, Biology and Physics. The scientific approach is believed to not only provide the students with necessary skills but also involves learners in the learning process thus making the subject very interesting. Nelson (2000) posits that an effective teaching approach should utilize a wide variety of methods that enhances learners' active involvement in the teaching process. This fits well with Hume's empirical approach to education. According to K.N.E.C (2010) Hume's practical approach to learning fosters academic performance in the subjects offered in secondary school such as English, Home Science, Geography, Computer Studies, Building and construction, Agriculture and the Science subjects. Commenting on 2009 K.C.S.E results K.N.E.C (2010) argued that students fail the science subjects because their teachers drill them to pass examination through repetitive rather than practical learning. According to the report many high school students have never seen the inside of a laboratory and the first time they encounter practical apparatus is in the examinations.

Kithaka (2004) concurs with Hume that practical oriented teaching methods enhances learning in secondary schools. Kithaka attributes this to the fact that they stimulate the interest of the student such that he/she develops the desire to learn well that is being taught in school.

According to Kochlar (1992) this kind of motivation is vital for without it there can be no learning. Chaille and Britain (1997) contend that even though most children go to school ready to learn, the teacher is duty bound to nurture this motivation by employing practical based teaching approaches. Gleaning from Hume's ideas U.N.E.S.C.O (2000) posits that practical approaches to learning promote learners motivation. It is believed that teaching approaches that actively involve learners would lead to higher motivation and learning as opposed to those methods where learners remain passive. U.N.E.S.C.O (2000) suggests teaching approaches such as Hume's empirical approach as it has the capacity to motivate learners and actively involve them in the learning process. Kithaka (2004) echoes Hume's ideas that a practical teaching method makes learning of concepts for students real and easy to conceptualise. Kithaka (2004) while working for Strengthening of Mathematics and Sciences in Secondary Education (SMASSE) project in Kenya argued that there is a general feeling among students that science subjects are difficult. This feeling according to Kithaka (2004) is as a result of too much theoretical teaching especially in sciences. U.N.E.S.C.O (1975) concurs with Hume that school subjects should be relevant to real life and experience of a learner. Teachers are urged to go beyond just giving mere facts to students and begin training them to apply the knowledge and skills gained in school to solve emerging problems in the society. Hume's practical approach to education demands that learners leaving high school should be able to apply knowledge learned and solve some of the problems encountered in life.

2.6 Theoretical Framework

This study was informed by two philosophical theories, namely;

  i) Empiricism
  ii) Logical Positivism

2.6.1 Empiricism

The study was informed by empiricism as espoused by David Hume. Empiricism is the attitude of mind that emphasizes the part played by experience in knowledge against that played by reasoning (Voss, 1993). The guiding principle of empiricism theory is that the ultimate truth is the one acquired through experiences and observations. The argument of the theory is that human knowledge can only be attained through the human senses such as touch, smell, hear, sight and taste. White (1991) posits that according to empiricism theory, knowledge and truth are the products of sensory experience and not purely mental operation. Sadker (2000) adds that according to the empiricists human beings experience the external world by sensory

perceptions then through reflection they conceptualize ideas that help them in interpreting the world.

The views held by the empiricists such as Hume influence education and hence this study. The theory of empiricism stresses the training of the senses of human beings in the field of education. This kind of outlook on education as held by the empiricists influences their views on the content of education and the methods of teaching they recommend. Sadker (2000) for example, argues that the empiricist stress on scientific experimentation in the field of education. The empiricists argue that people want to hear the latest research findings or to be shown documentation that something is true. Likewise teachers expect students to present evidence before drawing conclusion. The theory of empiricism therefore formed a strong base for this study. This is because in this study great emphasis was given to investigating the application of empirical knowledge in education in secondary schools in Baringo Central District as it is a key guiding principle in the acquisition of knowledge according to empiricism. Hume's ideas on the theory of empiricism cannot be discussed without acknowledging the role played by other thinkers who have also contributed to the tenets of the theory.

The theory of empiricism is associated with the British philosophers with John Locke being the first philosopher to lay a foundation for the theory. Hume is credited for taking it to the highest level (Wolf, 1995). He holds that according to Locke the genesis of knowledge is the five senses. The senses provide simple ideas which are to be synthesized by the mind to form abstract ideas. In Russell's view (1990) Berkeley takes Locke's argument further and denies the existence of matter. He maintains that all reality is mental. According to him, human beings perceive qualities and not things. He is of the view that material objects only exist through being perceived, hence all scientific statements are really statements of uniformity among sense experience. The scientist can only report what he/ she observes and thus he/she cannot say anything more than what has been observed so denying *a priori* knowledge. This study therefore used the theory of empiricism as a guideline in examining on the relevance of Hume's educational ideas in secondary schools in Baringo Central District.

2.6.2 Logical Positivism

The empiricism theory was backed by the theory of logical positivism (logical empiricism) as proposed by Otto Neurath (1882 - 1945). He was the leading figures of Vienna Circle, a group

of early twentieth century philosophers who sought to interpret empiricism basing on advancement in scientific knowledge (Norton, 1994). The logical empiricism (logical positivism) was an attempt to reconcile the ideas of the British empiricism which placed a strong emphasis on sensory experience as the basis for knowledge on one hand and with a version of rationalism incorporating mathematics and logic on the other side (Whitehead, 1962).The logical empiricists divide knowledge into analytic and synthetic types. The former include mathematical theories which can be validated *a priori* while the later encompass assertions about the real world which must be verified *a postioreori* by observation. The logical positivism theory was useful in studying the relevance of Hume's theory of knowledge to education in Kenya's secondary schools. The logical positivism is interested in promoting critical approach to educational matters. The argument of the theory is that besides handing out knowledge, education involves a transfer of criticism and the ability to consider matter under discussion from all sides. The teachers are expected to critically examine what to present to the learners and what to omit as unnecessary details. This particular approach proved useful and relevant in informing this study on the various roles a teacher is expected to play in any education system. In the section that follows the conceptual framework that illustrates the relation between the dependent and the independent variables is captured in the subsection 2.7.

2.7 Conceptual Framework

The conceptual framework of the study was based on the theoretical framework discussed in the section 2.6. Diagrammatically the relationships among variables within the conceptual frame work may be shown as in Figure 1.

Independent variable	Intervening variables	Dependent variable

Hume's Theory of Knowledge
(i) Sources of knowledge
  • Experience
  • Reasoning
(ii) Types of knowledge
  • Practical
  • Scientific
	(i) Student characteristics
	  • Gender
	(ii) Teacher Characteristics
	  • Training
	  • Experience
	(iii) School characteristics
		Relevance of Hume's Theory to Education
		  • The aims of education
		  • Content of education
		  • The methods of teaching
		  • The role of the teacher and the learner
		  • Discipline of the learner

Figure 1: Conceptual Framework Showing the Relationship between Hume's Theory of Knowledge and its Relevance to Education in Kenya's Secondary Schools.

In this study Hume's Theory of Knowledge formed the independent variable. These entailed Hume's views on various sources of knowledge specifically experience and reasoning. Hume's perspective on various types of knowledge especially practical and scientific knowledge also formed one aspect of the independent variable. The relevance of Hume's Theory of Knowledge to education in Kenya's secondary schools constituted the dependent variable. In other words in this study the aims of education, the content of education, teaching methods; teachers and student's role as well as issue of discipline of the learner in secondary schools were studied as the dependent variable. The intervening variables were divided into students and teachers characteristic. The former included the gender of the student while the later meant the teachers training and experience. The learning environment within the school also formed part of the intervening variable in this study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design to be employed, the study population, the location of study, the sampling procedure and the sample size, instrumentation, validation of the instruments, data collection procedures and finally data analysis procedures.

3.2 Research Design

In the study the descriptive *ex post facto* research design alongside the social science survey was employed (Ogolla, 2003). In descriptive *ex post facto* research design Kothari (2004) posits that the researcher has no control over the variables; he can only report what has happened or what is happening. This implies that there are no manipulations of the variables investigated. Mugenda and Mugenda (2003) support descriptive *ex post facto* research design in education. This is because many causes and effects relationship that are studied in education does not allow manipulation. In this study the descriptive *ex post facto* research design assisted the researcher to make inferences among variables without direct intervention of the independent and dependent variables mentioned earlier in the conceptual representation in the section 2.7 (Kerlinger, 1973). Sharman and Webb (1988) recommend the use of the social science survey in this kind of study because it enables those to be studied to speak for themselves. The social science survey (Gall & Borg, 1996) is an important part of descriptive *ex post facto* research design. In this study therefore the social science survey allowed the collection of data through questionnaires and observation schedules administered to the students and the teachers drawn from various departments.

3.3 Location of the Study

Baringo Central District is located in Baringo County. It borders Keiyo District to the West, Baringo North District to the north and Koibatek District to the south and Marigat District to the eastern direction. The district was chosen because it has high population of students and teachers. It has also the highest number of schools in Baringo County. As discussed in the section 3.4 these schools are spread over four (4) divisions.

3.4 Study Population

The study focused on all 24 secondary schools in Baringo Central District. Out of these 15 are co-educational schools, 3 boys and 6 girls' schools. The total number of students is 7137.

There are 3546 girls and 3591 boys who translate to 49.68 percent and 50.32 percent respectively of the total students in the district. On average, there are 290 secondary school teachers in the district. There are 99 female and 191 male teachers, which translates to 34.13 percent and 65.86 percent respectively of the total teachers in this district. Most of the schools in Baringo Central District are government sponsored as only 2 schools are privately owned (D.E.O Office Baringo Central, 2011).

The target population was made up of the teachers drawn from several departments in the 24secondary schools within Baringo Central District. This comprised of six departments for instance the department of languages, mathematics, sciences, guidance, technical and humanities. The teachers in these departments were expected to give out the desired information. The teachers were chosen because they are usually well versed with diverse educational issues in their schools.

3.5 Sampling Procedure and Sample Size

In the subsequent subsections, the sampling procedure and the sample size are discussed exhaustively. An effort is made to highlight the method used to pick appropriate sample size with the view to arrive at a representative sample as possible. This allowed the study to come out with results that can be generalised.

Simple random sampling procedure was used in this study to select participating schools and students. Gay (2003) supports simple random sampling because it gives equal chances to every element of the population being chosen as a sample. Moreover simple random sampling gives random samples which yield data that can be generalised within margins of error that can be determined statistically (Kathuri & Pals, 1993). There are 24 secondary schools in Baringo Central District spread throughout the four divisions of Kabarnet, Sacho, Tenges and Salawa (D.E.O Office Baringo Central District, 2011). For the purpose of sampling the distribution of schools in each of the four divisions was be based on the type of schools as shown in Table 1.

Table 1:
Categories of Schools per Division

School type	Kabarnet	Sacho	Tenges	Salawa	Total	%
Boys Schools	1	0	1	1	3	12.5%
Girls Schools	2	2	1	1	6	25.0%
Co-education	8	3	1	3	15	62.5%
Total	**11**	**5**	**3**	**5**	**24**	**100.0%**

(Source of Data, D.EO Office Baringo Central, 2011)

To guarantee that all parts of the district were well represented, equal numbers of schools from each school type were selected randomly from each of the four divisions. Since there was only one school in each of the category in Tenges division, then this was the one used as a standard to dictate the number of schools to be selected in each division. It follows that, one Boys school; one Girls school and one Co-educational school were selected from the four divisions. Where there was more than one school in a category, then a sampling frame consisting of the number of schools in that category was constructed and simple random sampling was used to select the one school required as sample. This involved assigning numerical to each of the schools in each of the category required, placing numbers in a container and then picking a number at random. The school corresponding to the number picked was then included in the study sample. A total number of eleven schools were therefore selected from the four divisions.

In the selection of participating students, simple random technique was again employed. As discussed earlier in the section 3.4; boys contribute 50.32 percent and girls 49.68 percent of the total student population in Baringo Central District. To make sure that the characteristics of the sample selected reflect the characteristics of population, a proportional sample was taken; that is 47 percent sample were boys while 53 percent were girls (Wallen & Fraenkel, 2000).

Gay (2003) argues that the larger the sample the more representative it would likely to be and more generalisable the results of the study would be. In this study the formula below was used to determine the sample size as recommended by Kathuri and Pals (1993).

$$S = \frac{X^2NP(1-p)}{d^2(N-1) + X^2P(1-P)}$$

Where:-

S = required sample size

N = the given population size

P = proportion in the target population estimated to have characteristics being measured (0.5 will be used in this study)

q = 1- p

d = the level of significance set

x = table value of chi-square for the one degree freedom (3.841 for 0.95 level of confidence)

Using the above mentioned formula, a sample of 382 students was arrived at. Taking a proportional sample implied that 202 girls and 190 boys were selected for this study. Therefore the number of girls and boys that were selected per single sex school was 34. While 19 boys and 16 girls per co-education schools. However in some schools the figures was slightly more by one so as get to the exact total number of 382 participants. In each of the 11 school selected, the teachers from the six departments mentioned in the 3.4 were also purposively chosen as a study sample. Mugenda and Mugenda (2003) support purposive sampling where certain individuals have the required information. This gives a total sample of 66 teachers in the study. The result of the sampling procedure is shown in table 2 below.

Table 2:
School Type and Sample Size

School type	No. of Schools	Boys	Girls	Total
Boys Schools	3	102	_____	**102**
Girls Schools	4	____	136	**136**
Co-education	4	78	66	**144**
Total	**11**	**180**	**202**	**382**

(Source of Data, D.EO Office Baringo Central, 2011)

3.6 Instrumentation

There were two main research instruments namely questionnaires and observation sheet. The questionnaire consisted of two sets of questions, those for the students and those for teachers. The questionnaire was chosen as appropriate instrument because of the nature of the respondents, being teachers and students, they are used to filling in forms (Peil, 1995). Furthermore the respondents can also take time to think about the questions, giving more meaningful answers. According to Tuckman (1972) questionnaire make it possible for the researcher to measure what a person knows (knowledge), likes and dislikes (values and preferences) and what a person thinks (attitudes and beliefs).The questionnaires were intended to offer the advantage of uniformity to all respondents as it was to give the same questions (Mugenda & Mugenda,1999). The researcher designed questionnaire with both closed and open ended items for the purpose of gathering data. The closed ended items were measured on a 5-point Likert scale. The respondents were expected to give their responses concerning the secondary school education along the lines of "Strongly agree", "Agree", "Undecided", "Disagree" and "Strongly Disagree". The questions used collected information on the teaching methods, aspects of the curriculum, the role of the teacher and the learners on the learning process and also the acquisition of morality by students. The questions were directed to the students and the teachers belonging to different departments of the schools chosen as a sample. This is further highlighted in the subsections 3.6.1 and 3.6.2. The nature of questions is shown in the appendixes 1 and 2.

3.6.1 The Heads of Department Questionnaires

The questionnaires were directed to teachers of the departments mentioned in the section 3.4.The questionnaires used were made up of open and closed ended items. The teachers chosen were expected to give out information on learning facilities in their schools, their opinions about various teaching methods, curriculum such as well as issues of morality in their schools.

3.6.2 Students Questionnaires

The questionnaires were also directed to the students in the selected schools. The questionnaires used had two sections. The purpose of this questionnaire was to find out how students view various learning activities. The questionnaires were designed in such a way that they gathered information on teaching methods, morality issues, teacher student interaction and facilities for learning from students.

3.6.3 Observation sheet

The researcher used the Observation Sheet (Appendix 3) derived from the instantaneous classroom observation sheet developed by (Croll, 1986). Using this kind of instrument the researcher was able to record any event or activity of interest to the researcher whenever it occurs. This study was mainly interested in observing five main aspects of classroom discourse as follows;

    (i)   The teacher's role in the class.

    (ii)   Teaching methods used by teachers during lessons.

    (iii)   The individual students' activities (the variety of ways in which students engage in class tasks).

    (iv)   Students- teacher interaction during lessons.

    (v)   The available learning facilities.

3.7 Validity and Reliability of the Research Instruments

In order to eliminate bias in the results, the research instruments were systematically evaluated to ensure their validity and reliability. Validity refers to how well an instrument measures what is intended to measure (Abouserie, 1992). On the other hand reliability refers to how consistent an instrument will produce similar results if used with the same or similar respondents on different occasions (Babbie, 1998). The two steps discussed below are anticipated to make the research instruments more valid and reliable.

First, frequent consultation with the research experts in the department on how best to construct questionnaire was done. The draft instruments were then discussed with research supervisors. Corrections were made based on the comments and recommendations given. The second step was to carry out a pilot study. Borg and Gall (1989) supports a pre-test of research instruments before they are used in research. From the literature review done it seems that there is no agreed method of gauging the number of respondents to participate in a pilot study (Greenan, Mustapha & Ncube 1998). In their study the three authors used 10 subjects in piloting instruments for a study that had a universe population of more than 2,000 subjects.

For this study one school in the neighbouring Baringo North District was piloted. Baringo North District has similar characteristics with Baringo Central District. The researcher used the test and re-test technique during piloting. In the words of Mugenda and Mugenda (2003) the test-retest method of assessing reliability of data involves administering the same instrument

twice to the same group of subjects. There was usually a time lapse between first test and the second test. In this pilot study therefore the researcher administered questions to the subjects and collected responses. After a period of three weeks the same questions were administered to the same subjects for the second time. In the study necessary amendments were made on the research instruments until the required threshold level was attained. Wallen and Fraenkel (2000) recommends a reliability coefficient of at least .70 and preferably higher. In the study, using the Kuder Richardson approach (the KR20 formula), a reliability index of .78 was obtained. This was deemed appropriate as it is within the acceptable threshold. The third step that was taken by the researcher to improve on reliability and validity was to brief the subjects on how the findings of the study would benefit them and the entire country. This was hoped to motivate the subjects to volunteer information without any inhibition (Gay, 2003).

3.8 Data Collection Procedure

A letter of introduction was obtained from the University. The letter was used to ask for permission from the National Council of Science and Technology (N.C.S.T) to undertake the research. Appointments to the various schools were then made ahead of time through direct visit and telephones. This was meant to allow the researcher to create a rapport with the relevant school authorities and possibly seek permission from them to allow their schools to be used in the study. Appropriate date for data collection exercise was fixed in liaison with the respective schools administrators, after getting a go ahead.

On the material day the researcher visited the relevant schools and briefed the school authorities on how the exercise was to be conducted. In conjunction with the school heads, a reliable teacher was chosen. This was to guarantee that the entire administered and questionnaires were returned to the researcher by the respondents, it was a way of eliminating the loss of research instrument by respondents. Introductory remarks were then made to the teachers chosen, after which the researcher briefed them about the contribution that the study would make to the field of education. They were briefed on how the questionnaires were to be administered and through them the respondents were assured that the results of the study would purely be for academic use and confidentiality of any information given was to be maintained. This was meant to dispel any fear that the respondents might be having about the study. Through this chosen teacher the respondents were reached. Since most schools in Baringo Central District are boarding schools then chosen teachers were free to fix appropriate time to do the data collection even if it meant during student's free time this was within a span of three

weeks. The preferred time being games time and preps time or any other time deemed fit by the schools participating. This was to ensure that the data collection exercise was conducted in such a way that there was minimum interruption of the programmes of the schools studied. The student respondents were given 55 minutes to fill and return the questionnaire. This was meant to ensure that all the filled in questionnaires were returned back without some of them getting lost. Moreover such short time duration easily fitted very well into students' free time or preps.

Through the chosen teachers, the researcher was also able to access teachers selected as respondents from the department chosen. They were given a duration of three weeks to answer the questionnaires after which the researcher revisited the schools to collect the filled in questionnaires. This big duration of three weeks was due to that fact that most of them might be very busy with administrative and teaching duties hence need more time to go through the questions and answer them during their free time. Being mature and responsible adults also they were unlikely to lose the research questions The researcher took the contacts of the chosen teachers and also left his own contact with them to facilitate communication in the process of filling in the questionnaires if need be. The natures of questions were described already on subsections 3.6.1 and 3.6.2. The observation sheet described in the subsection 3.6.3 was also used to collect data from the schools of study.

3.9 Data Analysis

The data generated from this study were both qualitative and quantitative in nature. Quantitative data was analysed through inferential statistics while qualitative data was analysed through descriptive statistics. In the words of Walliman (2011) descriptive statistics enables the researcher to describe; the characteristics of the data, where their centre is, how broadly they are spread and how one aspect of the data relates to another aspect of the same data. The descriptive statistics encompasses variation, correlation and measures of central tendencies such as mode, mean and median (Walliman, 2011). It was on the basis of descriptive statistics that research findings in this study were summarised by determining measures of central tendency especially mean. Inferential statistics are concerned with determining how likely it is for the results obtained from a sample to be similar to the results expected from the entire population (Mugenda & Mugenda, 2003). It was on the basis of inferential analysis that inferences and conclusions were made about the secondary schools in Baringo Central Districts basing on the sample studied (Kothari, 2011). All the activities involved in the analysis of the data collected in the study have been explained further in the subsequent paragraph.

The data collected in the study were processed and analysed. The processing done on the collected data involved editing, coding, classification and tabulation of collected data making their analysis possible (Kothari, 2011). In this study, the editing processes involved a keen scrutiny of the filled in questionnaires to detect errors and correcting them where possible. After editing the collected data in the study, then it was coded. Nigel (2008) describes coding as the process of assigning numerals to answers given by respondents for subsequent analysis. The coding exercise commenced with the researcher preparing a code book which showed the numerals assigned to the answers given by the respondents (Mugenda & Mugenda, 2003). The code book was used to enter data to the computer. This facilitated the employment of descriptive statistics using SPSS version 17 computer packages in data analysis. The computer packages made the presentation of data using graphs, the calculation of percentages, mean and tabulation of data easy in the study. Tabulation involved an orderly arrangement of data in columns and rows for further analysis (Kothari, 2011).

Being a philosophical study, then philosophical methods were also used in data analysis. They were three methods: critical analysis, phenomenological approach and conceptual analysis (Ogola, 2003). Critical analysis is the viewing of issues with reason (Moran, 2000). The critical perspective in the study was designed to examine even the assumed or pushed aside issues in the education system in secondary schools in Baringo Central District. The researcher critically examined every opinion given by respondents so as to establish the underlying factors for such opinions. Bennaars (1990) approves the use of critical approach in issues. Bennaars (1990) argues that the critical approach liberates one from narrow mindedness, which may easily lead to dogmatism and fanaticism. In the study therefore the critical approach assisted in arriving at objective findings. The critical approach was backed by conceptual analysis which involves the breaking down or analyzing concepts into their constituent parts in order to gain knowledge or a better understanding of a certain philosophical issue (Beaney, 2003). A summary of the data analysis is captured in the Table 3.

Table 3:
Summary Table of Data Analysis

Objective	Independent Variable	Dependent Variable	Method of Analysis
1. To assess the extent in which experience as a source of knowledge as advocated by Hume is relevant in the current secondary school education in Baringo Central District.	Experience as advocated by Hume	Methods of teaching in secondary schools in Baringo Central District	➢ Descriptive statistics • Frequencies • Percentages • Means ➢ Inferential statistics ➢ Phenomenological approach
2. To analyse the level at which Hume's educational aims has been relevant in secondary school education in Baringo Central District.	Hume's aims of education	Aims of education in secondary schools in Baringo Central District	➢ Descriptive statistics • Frequencies • Percentages ➢ Critical analysis
3. To evaluate the roles of teachers and students as advocated by Hume and their relevance to what currently goes on in secondary schools in Baringo Central District.	Hume's perception of learners and teachers role	Role of learners and teachers in secondary schools in Baringo Central District	➢ Descriptive statistics • Frequencies • Percentage ➢ Phenomenological approach ➢ Critical analysis
4. To find out how the content of the curriculum as advocated by Hume can be made more relevant to the current secondary schools curriculum in Baringo Central District.	Hume's education content	Content of the curriculum in secondary school in Baringo Central District	➢ Descriptive statistics • Frequencies • Percentages ➢ Conceptual analysis

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

In this chapter the areas of discussion are the response rate by the respondents, general characteristics of the respondents and the results of this study is discussed. This encompasses first, the extent to which experience as a source of knowledge is utilised in secondary schools. Second, the level at which Hume's educational aims has been relevant in secondary schools. Third, evaluating of the roles of teachers and students as advocated by Hume and their relevance to what currently goes on in secondary schools. Fourth, relating the relevance of the content of the curriculum as advocated by Hume to the current secondary school curriculum Baringo Central District.

4.2 The Research Instruments Return Rate

The data for this study was collected within three weeks using the questionnaire method and observation schedule sheet. The questionnaires were administered to 382 students and 66 teachers from 11 secondary schools in Baringo Central District. Out of the total students' questionnaire administered, 345 of them were satisfactorily completed and returned to the researcher by the respondents, giving a response rate of 90%. Out of the total questionnaire administered to the teachers, 57 of them were successfully completed and returned to the researcher by the respondents, giving a response rate of 86%. On the use of the observation sheet the researcher managed to apply it in 10 schools thus allowing a response rate of 90%.

4.3 Demographic Data of the Respondents

The study gathered information on the respondents' personal attributes. For the student respondents it included their location, gender, class and the type of school. For the teacher respondents it encompassed the type of school, their department, teaching subjects and their teaching experience.

4.3.1 Gender of the Respondents

On the issue of gender the results of the study as indicated by figure 2 showed that 162 (47%) of the students respondents were male while 183 (53%) were female. This may imply that majority of the students in form three (2011) secondary schools in Baringo Central District were female since majority of the respondents were three.
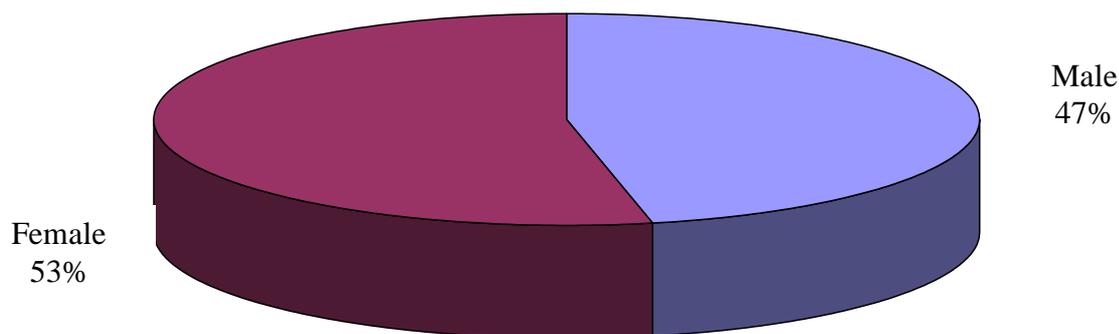
Figure 2: Gender of student respondents
 (Source of Data, Field Survey 2011)

4.3.2 The Type of School

On the type of the schools the results analysis as shown in the Table 4 reveals that 4 schools representing 36% were mixed school. 4 schools representing 36% were girls' schools.3 schools representing 28% were boys. This may suggest that most of the schools in Baringo Central District are in the co-education and girls' schools category.

Table 4:
 School category

Type of School	Frequency	Percentage
Co education	4	36 %
Girls	4	36 %
Boys	3	28 %

(Source of Data, Field Survey 2011)

On the location of the secondary schools, the results of the analysis as indicated in Table 5 showed that 2 of the schools representing 18% were located in Salawa Division.5 of the school representing 46% were located in Kabarnet Division.2 of the schools representing 18% were in Sacho Division while 2 the schools representing 18% were located in Tenges Division. This may reveal that most of the secondary schools in Baringo Central District are in Kabarnet Division.

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Table 5:
Location of the Schools

Division	Frequency	Percentage
Sacho	2	18 %
Kabarnet	5	18 %
Tenges	2	46 %
Sacho	2	18 %

(Source of Data, Field Survey 2011)

4.3.3 Education Levels of Respondents

On their level of education, the student respondents were required to indicate their class. The class of the respondent here was assumed that it would determine their level of education. This in turn determines their ability to grasp educational issues and hence give accurate information on what was sought. It was assumed that the higher the class the more a student was likely to understand matters of education. As shown on the Table 6, 10 of the students representing 3% were form ones. 54 of them representing 15 % were form twos while 281 of these students representing 82% were form threes. This may show that majority of those studied were from this form.

Table 6:
 Student Respondents

Form	Frequency	Percentage
One	10	3 %
Two	54	15 %
Three	281	82 %

(Source of the Data, Field Survey 2011)

On the teaching experience of the teacher respondents if clustered in years, the results as shown in the Table 7 indicated that the experience of the teachers was spread over varied years. This implies that the teaching staffs in Baringo Central are of different years of teaching experience.

Table 7:
Teaching Experience of the Teachers in Years

Clusters	Frequency	Percentage
0-4 Years	14	24.6 %
5-9 Years	13	22.8 %
10 Years and above	30	52.6 %
Total	57	100 %

(Source of Data, Field Survey 2011)

4.3.4 Department of the Respondents

The departments of the teachers' respondents were analysed and the results are shown in the table 8. Of the total 57 teacher respondents 9 which constitutes 15.8 % belong to the languages department. 8 of them which make up 14 % were drawn from the department of Technical and Applied subjects. Of the 4 teacher respondents which constitutes7 % are members of Guidance and Counselling department. The members of the Science department are 22 in number and this contributes 38.6% while 7 which translate to 7 % were members of Humanities department. Last but not least 7 members who constitute 12.3 % were from Maths department. From the analysis therefore the majority of the teacher respondents were drawn from the science department

Table 8:
Department of the Teachers Respondents

Department	Frequency	Percentage
Languages	9	15.8 %
Technical and Applied	8	14.0 %
Guidance and Counselling	4	7.0 %
Sciences	22	38.6 %
Humanities	7	12.3 %
Maths	7	12.3 %

(Source of the Data, Field Survey2011)

4.4 Extent to Which Experience as a Source of Knowledge is utilised in Secondary Schools

The first objective of this study intended to assess the extent to which experience as a source of knowledge as advocated by Hume is relevant in the current secondary schools education in Baringo Central District. To achieve this therefore this section examines how secondary school students and teachers in Baringo Central District view empirical method of the social sciences. To allow the making of logical discussion, the results of the two categories of respondents (teachers and students) on how they view experimentation are discussed in the subsequent sections.

4.4.1 Students Views on Experimentation Method of Teaching

Hume places a lot of premium on the acquisition of knowledge through the use of the five senses endowed to man by God and this constitutes a major tenet of empiricism theory of knowledge. Hence to explore the extent to which this has gained acceptance in secondary schools in Baringo Central District the results of students and teachers perspective on experimentation are given in the Tables 9 and 10. Their responses were explored and tallied.

Table 9:
The Students views on Experimentation Method of Teaching

Question	Description	Responses in Percentages					
		SA	A	U	D	SD	Total
Q5	I find learning through experimentation very enjoyable	76.2	20.9	0.6	0.9	1.4	100.0
Q6	If I did not come for practical classes for some reason I would be disappointed	37.4	38.3	5.2	13.3	5.8	100.0
Q7	Laboratory is a happy place for me during lesson time	44.4	35.4	4.4	2.9	1.2	100.0
Q8	Most of the students in my class enjoy experiments as a method of teaching	53.6	38.0	4.3	2.9	1.2	100.0
Q9	I find it difficult to handle science practical	6.4	14.5	3.5	46.1	29.6	100.0
Q10	I am confident of doing well in science practical	47.8	38.5	4.5	8.2	1.2	100.0
Q11	There is need for my subject teacher to use experimentation as method of teaching	59.4	29.9	1.4	5.5	3.8	100.0
Q12	In most cases students in our school encounter practical apparatus for the first time during examination	14.8	14.5	0.6	29.3	40.9	100.0

(Source of Data, Field Survey 2011)

The results of the study as shown in the Table 9 above appear to indicate that majority of the students in Baringo Central District find experimentation as a highly enjoyable method of learning as 76.2 % of them affirmed that. The students who were less radical in affirming the same constituted 20.9%. A small portion of 0.6% is indecisive in rating experimentation as a teaching method. It should be noted that although most secondary students in Baringo Central District enjoy experimentation as a method of teaching there are still those who never enjoy it as the mean of those who disagree and those who strongly disagree stand at 2.3%

The results of this study as witnessed in Table 9 above shows that, even though a big proportion of secondary school students in Baringo Central District, endorsed experimentation as a laudable teaching approach not all of them would be disappointed if they missed practical lessons. For only a percentage of 37.4 students strongly agree that if by any chance they missed a practical class they would be disappointed. Those who agree that if the same happened to them they would be disappointed to some extent constitute 38.3 %. In Baringo Central District 13.3% and 5.8% of disagree and strongly disagree respectively that they would be disappointed if they missed any practical. The undecided lot constitute 5.2% of the total students' population.

In the ideas of Neurath (1882 - 1945) true knowledge is acquired through observation as opposed to relying solely on *a priori* and intuitive knowledge. He emphasizes on evidence especially as found in experiments. Nurturing of learners' observation skills is therefore a very vital role, in any system of education. In a school set up, the laboratory is always among one of the areas which provide the necessary opportunity for students to exercise their observation skills. As shown in the Table 9 above, this study reveals that only 44.35 % of secondary school students in Baringo Central District strongly agree that they find laboratory as a happy place during lesson time. The group that agree that to some extent the laboratory is a happy place during lesson time adds up to 35%. There are yet those who never at all enjoy the laboratory in their classes as a total of 15.9 % of students in Baringo Central District fall in this category.

The results of the study as displayed in the Table 9 above reveal the level of the support that experimentation enjoy in a class set up in secondary schools in Baringo Central District. Majority of the students (53%) strongly agree that most of their colleagues enjoy experimentation as a method of teaching. This is as opposed to a small minority of 1.2 % who strongly disagree that their classmates do not enjoy experimentations as a teaching method. It is an indication that the attitude of students in the district towards experimentation a teaching methods is a positive one.

The study established that to a large extent secondary school students in Baringo Central District are incapable of handling science apparatus devoid of any difficulty. As captured in the table 9 above, a small proportion of them which constitute only 29.9 % do not find it hard at all handling science practical. Over 70% of them to a varying extent have difficulties handling science practical.

Hume organised much of his epistemology and his discussions of issues in philosophy around his analysis of causation. All his reasoning concerning matter of fact seems to be founded on the relation of "cause and effect" (Norton, 1994). Hume being believes that a person goes through his/her life making predictions about the behaviour of those around and very often bet their lives on the accuracy of these predictions (Warburton, 1999). According to Hume for example, when a person boards a public service vehicle he/she believes that the driver will follow all the rules and drive carefully without causing any accident. When examiners are employed to mark students work such examiners are depended on to act professionally and award students as per their performance. Popkin (1982) believes that Hume's ideas are

exemplified in the educational circles where after a thorough revision; one can easily predict a good academic performance in a national examination. The opposite is the case. If a teacher fails to cover the syllabus adequately one can easily predict with precision a poor academic performance in a national examination. From this study as shown in the table 9 above, less than half of the students in secondary school in Baringo Central District are highly optimistic that given any science related practical and assignment they would do extremely well. This is evident by the fact that only 47.8% of them strongly agree that they are confident of doing well in science oriented assignments and examinations. According to Hume the low confidence level of some of them (13.9%), could be explained by their past experiences, characterised by poor performance in practicals. These have made them predict poor performance in practicals, something Hume deems as irrational as it is wrong to use past events to predict the future. Hume argues that there is no certainty that the future will resemble the past.

Results in the Table 9 appear to show that a good percentage (59.4%) of secondary school students in Baringo Central District greatly recommend where applicable the use of experimentation by their teachers in their day to day lessons. However the exposure of secondary school students in Baringo Central District to practical classes is wanting. This is evident by the fact that 59.2% of secondary school students in Baringo Central District to a varying magnitude are of the opinion that more often than not students in their schools encounter practical apparatus for the first time during examination period.

4.4.2 Teachers Views on Experimentation Method of Teaching

To establish teachers' perspective on experimentations as a method of acquiring knowledge the following questionnaire were analysed and the findings are reflected in Table 10 below.

Table 10:
Teachers views on Experimentation Method of Teaching

Question	Description	Responses in Percentage					
		SA	A	U	D	SD	Totals
Q5	I find teaching through experimentation very enjoyable	66.3	34.0	1.8	0.0	1.8	100.0
Q6	If I could not come to practical classes for some reason I would be disappointed	34.62	48.1	1.9	13.5	1.9	100.0
Q7	Laboratory is a happy place for me during lesson time	31.4	37.3	23.5	7.8	0.0	100.0
Q8	Most of the students in my class enjoy experimentation as a teaching method	54.0	28.0	18.0	0.0	2.0	100.0

Q9	I find it difficult to teach science practical	7.8	7.8	9.8	49.0	25.5	100.0
Q 10	I am confident that my students would do well in practical oriented assignments and examination	35.3	54.9	2.0	5.9	2.0	100.0
Q 11	There is need for every teacher in my department to use experimentation as a method of teaching	47.1	45.1	2.0	5.9	0.0	100.0
Q 12	Teachers tend to expose students to practical apparatus in most cases only during examination	21.2	32.7	11.5	26.9	7.7	100.0

(Source of Data, Field Survey 2011)

The results of the study as captured in the Table 10 reveals that majority of the teachers in secondary schools in Baringo Central District enjoy employing experimentation in their process of teaching as 66.7% of them support this. However students tend to attach more emphasis to experimentation than their teachers in secondary schools in Baringo Central District as it was observed earlier in the subsection 4.3 that 76.2% of the students endorses experimentation as a welcome teaching method. It is also vital to note that the ratio of teachers who do not support experimentation at all is higher than that of students. From the results of the study 1.8 % of teachers do not derive any joy from experimentation while a mere 1.4 % of students are of the same opinion.

It is evident in this study as captured in Table 10 above that a sizeable portion of secondary school teachers in Baringo Central District could very easily miss a practical lesson. This can be inferred by the fact that only 34.6% of the teachers interviewed strongly agree that they would be disappointed if for some reason they missed a practical lesson. There is a significant relationship between the attitude that secondary school teachers in Baringo Central District have towards missing practical lessons and that of their students. This is corroborated by the findings of the study whereby it was observed earlier in the subsection 4.3.1 that just like their teachers; a small ratio (37.4%) of students would be greatly disappointed if they missed a practical lesson.

The research findings as shown in the Table 10 above shows that more than half of the secondary school teachers in Baringo Central District do not completely find the laboratory as a happy place for teaching. This is because only 31.37% of the teachers strongly agree that laboratory is a happy place for them during lesson. The reason for this could probably be

because the laboratory in most cases does not cater for all the subjects in a school setting. More often than not it caters for the sciences subjects. This proportion of teachers who find the laboratory a happy place tends to be smaller than that of students. As observed earlier 44.35% of the students do find the laboratory a happy place during lesson.

4.5 Analysis of the Level at Which Hume's Educational Aims has been Relevant in Secondary Schools

As discussed earlier in chapter two, moral education occupies a very central role in Hume's educational aims. Hume also stresses the kind of education which equips the learners with the skills to solve problems in the wider society after school. The subsections that follows has attempted to explore this by looking at how the subject of morality has been taken in secondary schools in Baringo Central District as well as the extent to which secondary education prepares students to solve emerging challenges in the larger society. To arrive at plausible explanation of this, then the views of students and teachers were captured in the Tables 11 and 12. The graphical representations of the same data were reflected in figures 3 and 4.

Table 11:
Students Views Regarding the Relevance of Hume's Educational Aims

	Students	Response in Percentage					
	Description	SA	A	U	D	SD	Total
Q28	Morality is stressed more than academic excellence in our school	10.3	17.9	10.3	35.6	25.9	100.0
Q29	My school often rewards morally upright students	22.6	33.5	5.3	20.6	17.9	100.0
Q30	If asked to identify a role model to emulate in my school, most students would choose one of the teachers in their school	26.5	38.2	5.3	19.1	10.9	100.0
Q32	Secondary education prepare learners to adequately solve emerging issues in the society	61.8	28.9	0.6	5.2	3.5	100.0

(Source of the Data, Field Survey2011)
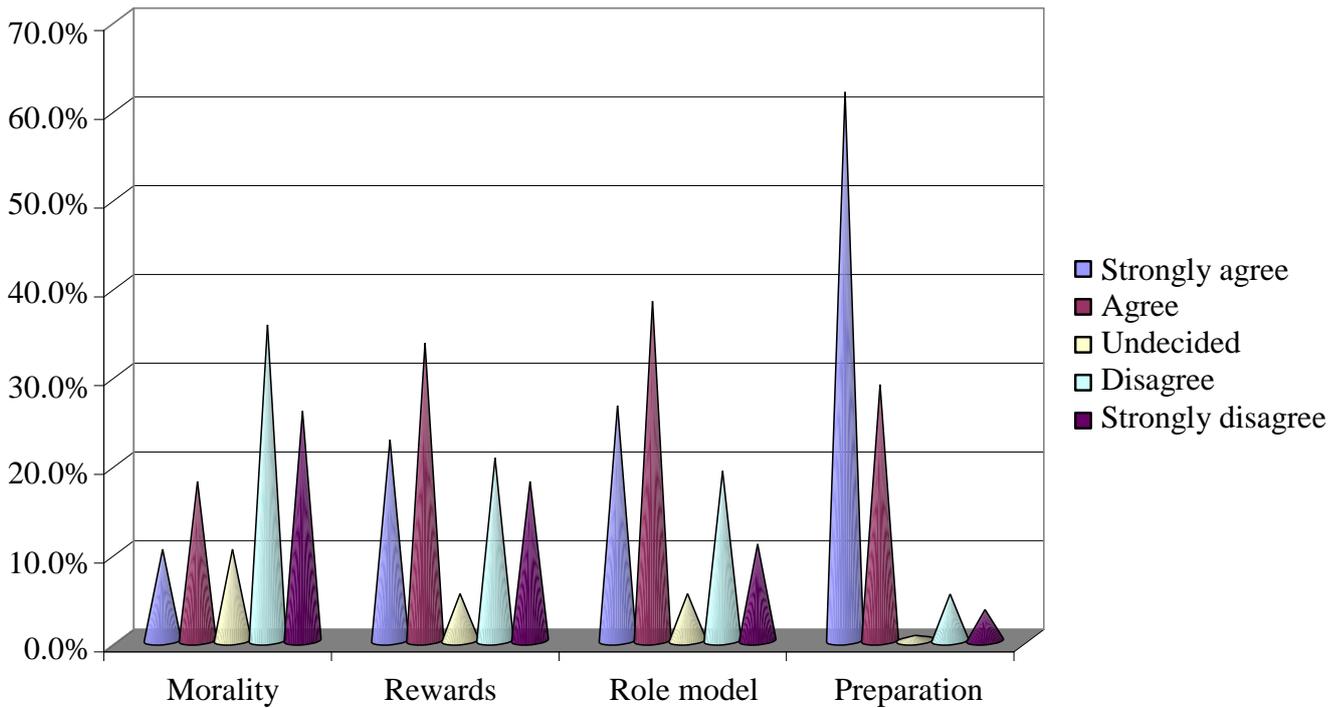
Figure 3: Students views Regarding Relevance of Hume's Educational Aims
 (Source of the Data, Field Survey 2011)

Frankena (1973) defines morality as a social system of regulation that govern the behaviour and conduct of an individual person in the society. Gleaning from the ideas of Sigmund Freud, Frankena argues that morality is an attempt to regulate the id. Here morality is the function of the superego which does not think merely in terms of getting what is desired by the individual id or even in terms of salvaging the greatest balance of satisfaction over frustration for it. According to Gachathi Report (1975) parents were the main agents for moral education in the African traditional society; however, there has been a shift to teachers with the advent of formal education. This is because students spend more of their time in school than at home. The society therefore expects the school to play a pivotal role in the inculcation of moral values in students. However Bennaars (1993) contends that the way morality has been handled in the curricula in African schools is always wanting. Schools find it difficult to handle the subject of morality since morality in Africa has become a highly complex phenomena as it attempts to cope with traditional and modern values.

The results of the study as reflected in the Table 11 and figure 3 is a clear manifestation of the fact that moral education has been sacrificed at the altar of academic excellence in Baringo Central District. It can be deduced that Schools tend to emphasise more on academic

performance rather than inculcation of moral values in the students. The data obtained in the field attest to this as 61.5 % of the students in Baringo Central District argue that academic performance has been given more prominence than issues of morality. The lackadaisical approach to moral issues in Baringo Central District may further be inferred from the fact that most of the schools do not often reward morally upright students. Hume argues that the only way to reinforce a desired behavioural trait in a student is through punishment and reward. Basing on Hume's ideas, it can be deduced that every school interested in moral education must employ reward and punishment to instil virtues in students. In the words of Hume without either positive or negative reinforcement, no meaningful moral education can take place. Not all Secondary schools in Baringo Central District have lived up to this expectation as only 61.7% of the student interviewed support that morally upright students are rewarded in their schools. Owing to the centrality of moral education in Hume's educational ideas, it can be argued this fraction is small as Hume expects all schools to often reward morally upright students. As explained earlier in the literature review the empiricists expect teachers to be exemplary in their conduct for students to emulate them. From the study however only 64.7% would choose their teachers as role models. Just as argued before this fraction is low as the empiricists expect all teachers to set examples in conduct to their students, worth emulating.

Bennaars (1993) concurs with Hume that education should enhance the liberation and empowerment of an individual person so that he/she can participate in the development of his/her society. Participation here is conceived as an active process, whereby the participants reflect, decide and act as conscious subjects, as human persons. These ideas are quite in harmony with Paulo Freire's educational philosophy. Freire (1972) believes that the liberation of man is the primary purpose of education. This emanates from the view that the poor cannot effectively participate in development as long as the oppressive structure of society is not radically changed. Neurath (1862 - 1945) echoes that besides handing out knowledge, education involves a transfer of criticism and the ability to consider matter under discussion from all possibilities. The results of the study as seen in the Table 11 and figure 3 shows that secondary school education in Baringo Central tends to achieve exactly the same. Majority of the students (90.7 %) in the district agree that secondary school education prepares learners to adequately solve emerging issues in the society.

Table 12:
Teachers Views Regarding Relevance of Hume's Educational Aims

Question	Description	Response in Percentage					
		SA	A	U	D	SD	Total
Q28	Morality is stressed more than academic excellence in our school	5.4	14.3	14.3	51.8	14.3	100.0
Q29	My school often rewards morally upright students	12.5	44.6	12.5	30.4	0.0	100.0
Q30	If asked to identify a role model to emulate in my school, most students would choose one of the teachers in their school	15.8	45.6	17.5	19.3	1.8	100.0
Q32	Secondary education prepare learners to adequately solve emerging issues in the society	22.8	45.6	10.5	17.5	3.5	100.0

(Source of the Data, Field Survey2011)
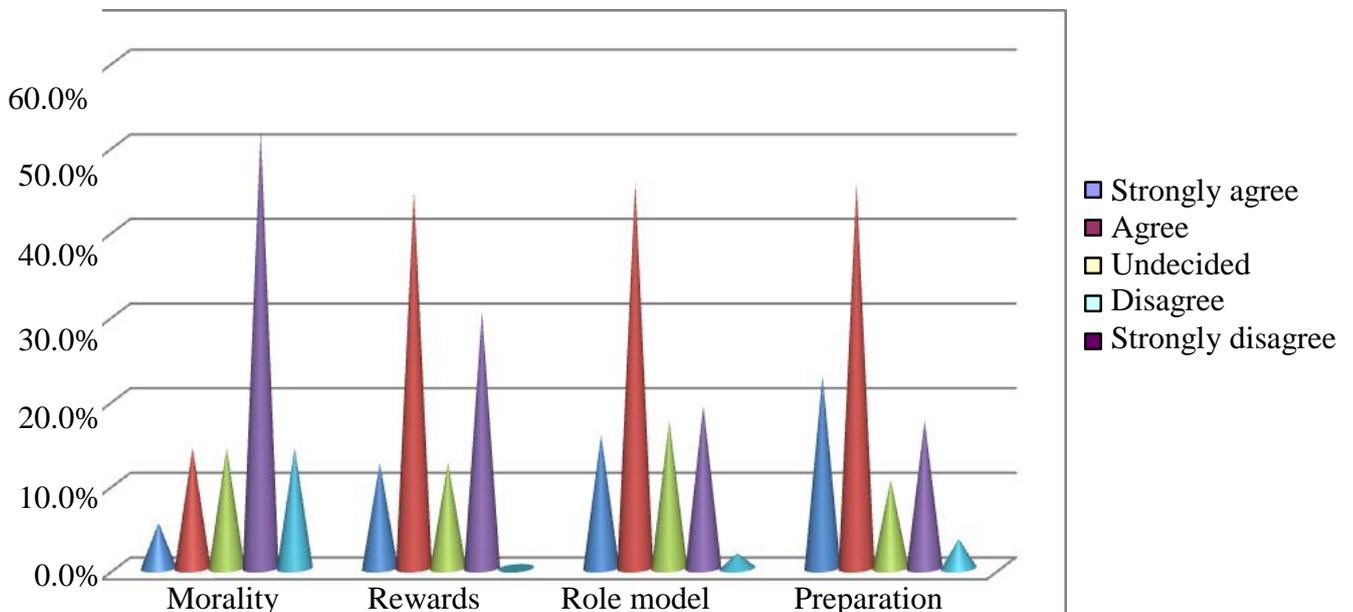
Figure 4: Teachers views Regarding Relevance of Hume's Educational Aims
 (Source of the Data, Field Survey2011)

Education in Kenya today has been reduced to a mere caricature of the vital process it is supposed to be (Bennaars, 1993). It is generally agreed that nowadays success in examinations is all that counts in most schools. This jeopardises moral education as Bennaars contends that the moral education of the young today is increasingly being entrusted to teachers, who operate within the semi isolated context of the school. If teachers ignore moral education then the young will be faced with a big challenge when they face moral dilemma. They may be forced

to turn to impersonal moral educators such as books, newspapers, magazines and films. They may also be forced to rely on peer group for the acquisition of moral values hence the possibility of being misled. The study as captured in the Table 13 and figure 8 revealed that majority of the teachers (66.1%) in secondary schools in Baringo Central District concur with the students that academic matters are stressed more than issues of morality. Few of them (19.7%) agree that morality is stressed more than academic issues in their schools. Some of the teachers (14.3%) of the teachers of Baringo Central District find it hard to identify whether morality is given more stress or academic issues in their schools

4.6 Evaluation of the Roles of Teachers and Students in Secondary Schools

The third objective of this study intended to evaluate the roles of the teachers and students as advocated by Hume and their relevance to what currently goes on in the secondary schools in Baringo Central District. To achieve this, an attempt was made to analyse how teachers approach the teaching process and the position of the learner in the learning process.

Table 13:
Students Evaluation of Teachers and Students Roles

		Response in Percentage					
Question	Description	SA	A	U	D	SD	Total
Q13	We often engage in group discussion during lesson time in class	15.5	21.4	2.1	37.5	23.5	100.0
Q14	Most students in our school have study groups where they discuss academic issues during lesson time and prep time	24.3	22.6	4.6	28.4	20.0	100.0
Q15	I tend to benefit more from group discussion than private reading and study	50.3	31.8	4.0	10.4	3.5	100.0
Q16	During lesson time in class most teachers use lecture method	17.1	27.0	3.5	35.9	16.5	100.0
Q17	Teachers always allow students to be actively involved in every lesson taught in class	67.7	24.4	2.0	3.8	2.0	100.0
Q18	In my class in most cases during lesson the learning process is student centered and the role of the teachers is just to facilitate learning	24.4	32.8	7.6	25.6	9.6	100.0
Q19	It is frequent for teachers in my school to teach most of the subject content and the students just sit down and listen	14.0	22.2	5.8	39.8	18.1	100.0

| Q31 | The morality of most students in our school tends to be influenced more by politicians and media stars than teachers | 18.3 | 24.3 | 6.5 | 29.3 | 21.6 | 100.0 |

(Source of Data, Field Survey 2011)
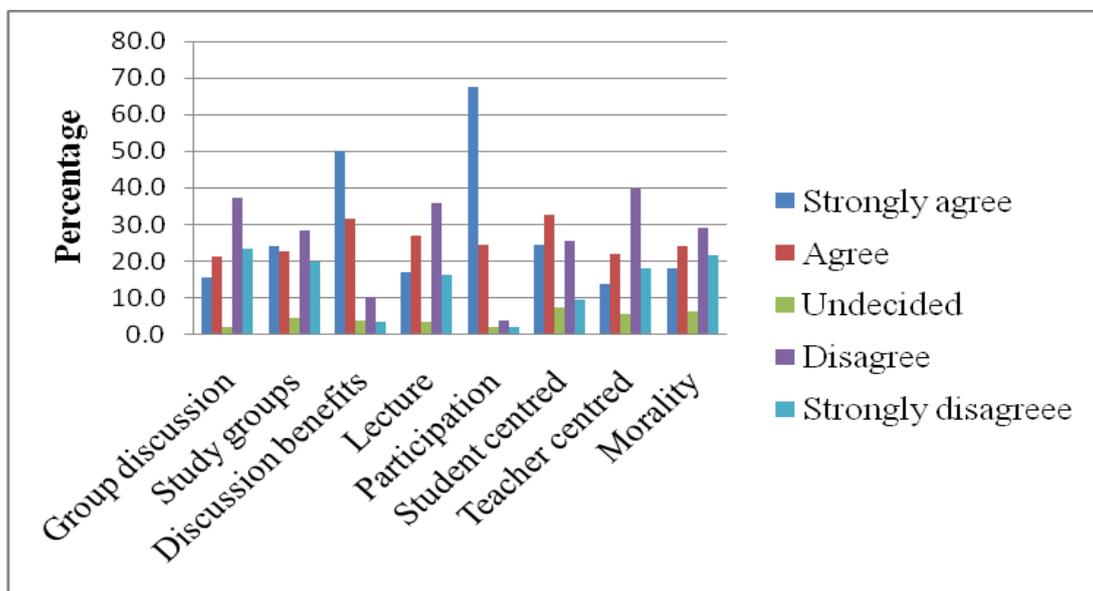
Figure 5: Students Evaluation of Teachers and Students Roles

(Source of Data, Field Survey 2011)

The findings of the study as shown in the Table 13 and the figure 4 above indicate that most of the secondary schools in Baringo Central District do not engage their students in any group discussions. This is substantiated by the fact that 70 % of the students in the district submit that they do not often engage in group discussion in the process of learning. To prove this furthermore 46.9 % of the students agree that they do not have study groups in the schools they come from. This is in spite of the fact that majority of them (82.1%) find learning through group discussion to be very beneficial. A small number (13.9%) of secondary school students in Baringo Central Districts do not find group discussion to be beneficial to them. It is generally agreed by the students that their teachers use lecture method to deliver their subject content. This was also supported by the observation results arrived at in the field. The observation carried out in the process of data collection established that most of the secondary schools in Baringo Central District use lecture method. The research reveals that the teachers allow the students to participate actively in every lesson taught. Majority of the students

54

(92.1%) agree that their teachers allow them to be actively involved in every lesson taught in class. However it should be noted that the active participation by the students is mainly through note taking. The observation conducted showed that in Baringo Central District secondary school student take a very passive role in the learning process. It was indeed established that most of the teachers rely on the teacher centred approaches to impart knowledge. This observation is further corroborated by the research findings which indicate that 36.2 % of students in Baringo Central District who agree that it is frequent for teachers in their schools to teach most of the subject content and the students just sit down and listen.

Hume stresses on the need for every educator to be a role model in his/her conduct so that the learners might emulate. It was discovered that to some extent teachers in secondary schools in Baringo Central District have never managed to be role models to their students as 42.6 % (table 13) of the students in the district agree that the morality of most students in their school tends to be influenced more by politicians and media stars than teachers. Secondary school teachers have managed to get almost half (50.9 %) who would rather choose to emulate their teachers as role models rather than politicians. This fraction is viewed to be small as students spend more time with their teachers than politicians and media stars. One would have expected more students to imitate teachers. Moreover observations made during data collection, revealed that most schools in Baringo Central District are boarding schools, meaning students are in school most part of the year with teachers. There in need therefore for the teachers to set an example worth emulating by almost if not all the students. As presented in table 14, only 50.9 % of the teachers disagree that the morality of students tends to be influenced more by politicians and media stars than teachers. This confirms that Baringo secondary school teachers still have to do a lot to win the confidence of their students in issues of morality.

Table 14:
Evaluation of Students and Teachers Roles

Question	Description	Response in Percentage					
		SA	A	U	D	SD	Total
Q13	We often engage our students in group discussion during lesson time in class	28.1	50.9	1.8	17.5	1.8	100.0
Q14	Most students in our school have study groups where they discuss academic issues during lesson time and prep time	26.8	41.1	5.4	26.8	0.0	100.0
Q15	Students tend to benefit more from group discussion than private reading and study	35.7	46.4	1.8	14.3	1.8	100.0
Q16	Lecture method is commonly used by most teachers in our school when teaching	10.7	39.3	7.1	41.1	1.8	100.0
Q17	Teachers in our school always allow their students to be actively involved in every lesson taught in class	33.9	50.0	5.4	10.7	0.0	100.0
Q18	In my department in most cases during lesson the learning process is student centred and the role of the teachers is just to facilitate learning	16.4	58.2	1.8	21.8	1.8	100.0
Q19	It is common for teachers in my school to teach most of the subject content and the students just sit down and listen	14.3	23.2	1.8	48.2	12.5	100.0
Q31	The morality of most students in our school tends to be influenced more by politicians and media stars than teachers	14.0	22.8	12.3	29.8	21.1	100.0

(Source of the Data, Field Survey 2011)
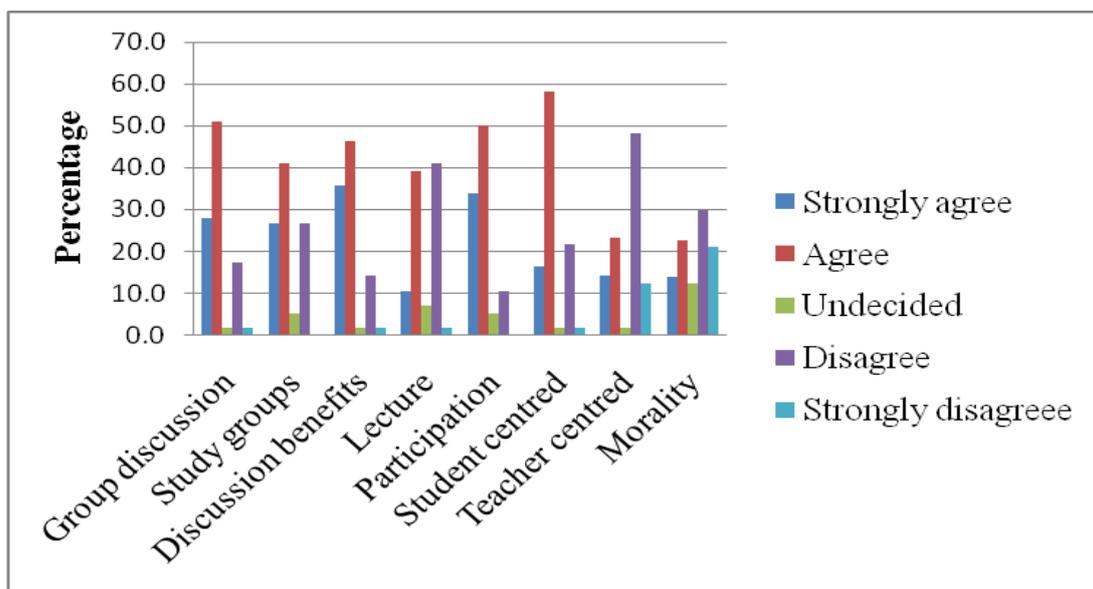
Figure 6: Evaluation of Students and Teachers Roles
 (Source of the Data, Field Survey 2011)

The findings of the study as shown in the Table 14 and the figure 6 above indicate that most of the secondary schools teachers in Baringo Central District believe that they engage their students in group discussion during lesson time. This is substantiated by the fact that 50.9 % of the teachers interviewed agree that they often engage their students in group discussion in the process of learning. If we were to juxtapose the opinions of teachers and students on the same subject there seems to be a disparity. As seen earlier contrary to the views of their teachers most the secondary school students in Baringo Central District argue that their teachers do not involve them in group discussions.   Furthermore the teachers' stance appears to be debatable as 41.1 % of the teachers interviewed agree that their students do not have study group. This may nullify the teachers' perspective as it may not be possible to involve students in group discussions if they do not have study groups.

Teachers and students, however, is in agreement that learning via group discussion are very beneficial to students. Furthermore 10.7% and 39.3% of the teachers strongly agree and agree respectively that they often use lecture method when teaching. This translates to half (50%) of the secondary school teachers employing lecture method. A clear manifestation that group discussion may not be a common practise in the district in question. Most of the teachers (50%) agree that they allow active participation by students during lesson time. It was established through observation made that this is through students listening to their teacher, taking notes and conducting experiments in the laboratory. However to a large extent the teachers concur

with their students that learning in Baringo Central District is teacher centred as 37.3% of them agree that learning in the district is teacher centred.

4.7 How the Content of the Curriculum as advocated by Hume can be made more Relevant to Secondary School Curriculum

The fourth objective in this study endeavoured to establish how the content of the curriculum as advocated by Hume can be made more relevant to the current secondary schools curriculum in Baringo Central District. To achieve this, an attempt was made to look at how secondary schools handle issues of discipline as it forms the core of Hume's educational curriculum.

Table 15:
Students views on making the Content of the Curriculum more Relevant to Hume's

Question	Description	Response in Percentage					
		SA	A	U	D	SD	Total
Q20	Wrong doers are never caned in our school	5.0	2.9	1.7	21.3	69.1	100.0
Q21	Guidance and counseling is the main method used to instill morality in our school	42.0	34.2	1.7	10.7	11.3	100.0
Q22	There is peer group counselors in our school to assist in guiding and counseling their fellow students	29.1	34.4	7.4	12.4	16.8	100.0
Q23	It is common for wrong doers to be scolded by teachers	17.7	32.4	7.4	23.6	18.9	100.0
Q24	Teachers never call students names or yell at students whenever they do wrong in class	9.4	15.2	3.5	37.4	34.5	100.0
Q25	Teachers often criticise students or humiliate them in front of other students	19.2	21.3	6.9	32.6	20.1	100.0
Q26	I am sure that if any of my teachers find a student on the wrong he/she would cane that particular student	50.1	34.9	3.5	7.6	3.8	100.0
Q27	It is common for students to be suspended or expelled for breaking school rules in our school	42.6	36.4	2.3	13.4	5.2	100.0

(Source of the Data, Field Survey2011)

Figure 7: Students views on making the Content of the Curriculum more Relevant to Hume's
(Source of the Data, Field Survey 2011)

Table 16:
Teachers views on Making the Content of the Curriculum of Relevant to Hume's

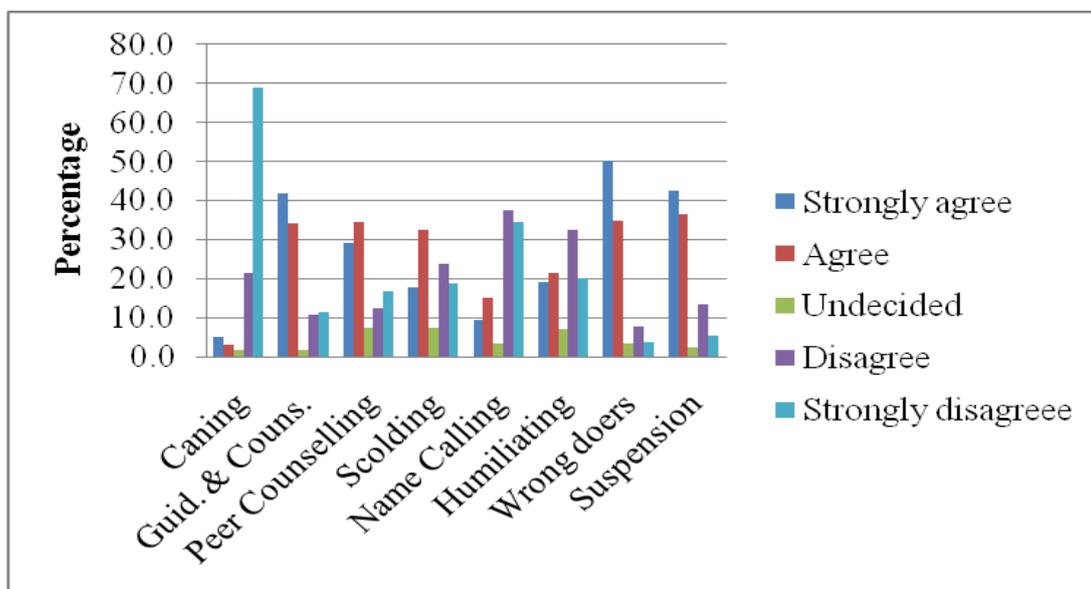| Question	Description	Response in Percentage					
		SA	A	U	D	SD	Total
Q20	Wrong doers are never caned in our school	5.6	16.7	7.4	46.3	24.1	100.0
Q21	Guidance and counseling is the main method used to instill morality in our school	26.8	46.4	12.5	12.5	1.8	100.0
Q22	There is peer group counselors in our school to assist in guiding and counseling their fellow students	19.6	48.2	7.1	19.6	5.4	100.0
Q23	It is common for wrong doers to be scolded by teachers	10.9	32.7	9.1	36.4	10.9	100.0
Q24	Teachers never call students names or yell at students whenever they do wrong in class	19.6	39.3	10.7	23.2	7.1	100.0
Q25	Teachers often criticise students or humiliate them in front of other students	1.8	26.8	12.5	41.1	17.9	100.0
Q26	I am sure that if any of my colleagues find a student on the wrong he/she would cane that particular student	10.7	17.9	16.1	42.9	12.5	100.0
Q27	It is common for students to be suspended or expelled for breaking school rules in our school	10.7	37.5	14.3	30.4	7.1	100.0

(Source of the Data, Field Survey2011)
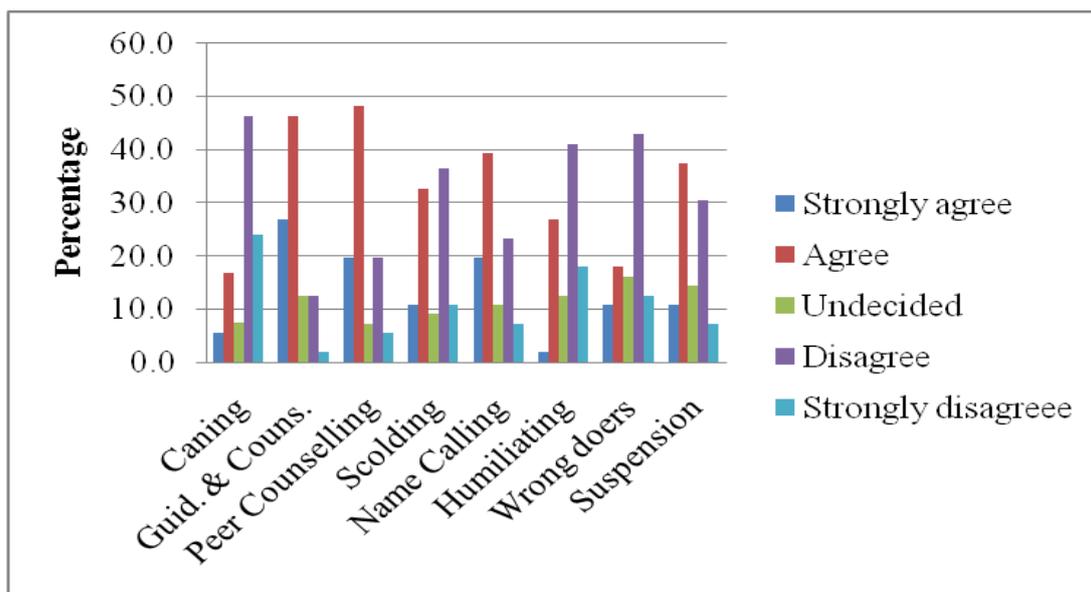
Figure 8: Teachers views on making the Content of the Curriculum more Relevant to Hume's
(Source of the Data, Field Survey 2011)

The results of the study as represented in the Tables 15 and 16 alongside figures 7 and 8 indicates that corporal punishment is still widely used to instil discipline in the learners in secondary schools Baringo Central District. This can be deduced by the fact that 90.4 % and 70.4 % of students and teachers respectively agree that caning is employed in their schools. The observations made in the field further confirm this statistics as it was established schools use the cane to mould wayward students. This is in spite of most of the schools having a workable guiding and counselling department with fully constituted peer group counsellors.

The study revealed that very crude methods of scolding wrong doers, name calling of students, humiliating wrong doers in front of others and criticising openly are still used to correct students in Baringo Central District, oblivious of the far reaching effects these approaches may have on the self esteem of learner. Worse still the study revealed that the suspension and expulsion of wrong doers is a common feature in Baringo Central District as 79.0 % and 48.2 % of the students and teachers respectively affirm to that.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter a summary of the findings are done and some recommendation for those who might be interested in the undertaking further research in future in the same area was made. These have been explored in the subsections of 5.1, 5.2 and 5.3

5.2 Summary of the Findings

The first objective of the study was to assess the extent in which experience as a source of knowledge advocated by Hume is relevant in the current secondary schools in Baringo Central District. Based on the findings of this study it was established that secondary schools in Baringo Central District to a great extent find a lot of relevance in Hume's ideas especially the notion that experience is the basis of knowledge. Nevertheless the research outcome established that there have been some disparities between how secondary schools in Baringo Central District find the theory very relevant and how they have managed to implement it in their schools.

The second objective of the study was to analyse the level at which Hume's educational aims have been relevant in secondary school education in Baringo Central District. Based on the findings of this study it was established that the aims of education in secondary schools in Baringo Central District to a very high level are the same as those advocated by Hume. However moral education has not been given the serious attention it deserves in secondary schools in Baringo Central District.

The third objective of this study was to evaluate the roles of teachers and students as advocated by Hume and their relevance to what currently goes on in secondary schools in Baringo Central District. Based on the findings of the study it was discovered that the teachers in Baringo Central District tend to take a more active role in the educational process than their students. This is a total contrast of Hume's perspective of the roles of the teacher and student in the learning process. Hume supports a more participatory role on the part of the student. Hume's Theory calls upon the learner to take up a more participatory role as the teacher act as a facilitator in the education process. Moreover Hume expect teacher to be exemplary in their conduct so that student can emulate them. Here the teacher ought to play the role of being a role model in the inculcation of moral values to the students. The outcome of the results of the

study seems to paint a different picture in Baringo Central District as most students in secondary schools would rather choose a politician or a media star than their teacher as a role model.

The fourth objective in this study was to find out how the content of the curriculum as advocated by Hume can be made more relevant to the content of the current secondary school curriculum in Baringo Central District. Based on the findings of the study it was established that there is a great relevance of the content of the secondary schools curriculum in Baringo Central District to the one advocated by Hume. In both the content of the curriculum aims at adequately preparing a student to solve the myriad challenges that may be there in the wider society. However Baringo Central secondary schools need to borrow from Hume and use guidance to correct wrongdoers rather than corporal punishment them.

5.3 Conclusions

The first objective of this study was to assess the extent in which experience as a source of knowledge as advocated by Hume is relevant in the current secondary schools in Baringo Central District. From the results of the study it can be concluded that even though secondary schools in Baringo Central District applaud Hume's Theory of knowledge as a very relevant approach in imparting knowledge they have not fully exploited it. This can be deduced by the fact that quite a number of secondary schools in Baringo optimally utilise this approach only during examinations.

The second objective of the study was to analyse the level at which Hume's educational aims have been relevant in secondary school education in Baringo Central District. From the results of the study it can be concluded that even though the aims of education in secondary schools in Baringo Central District to a very high level mirror those advocated by Hume, moral education has not been given a lot of emphasis.

The third objective of this study was to evaluate the roles of teachers and students as advocated by Hume and their relevance to what currently goes on in secondary schools in Baringo Central District .Basing on the results of the study it can be concluded that secondary school teachers in Baringo Central have not been role models to their students. Most of the in secondary schools would rather choose a politician or media star as a role model than their own teachers.

The fourth objective of the study was to find out how the content of the curriculum as advocated by Hume can made more relevant to the current secondary schools curriculum in Baringo Central District .Basing on the results of the study it can be concluded that most secondary schools in Baringo Central District still use archaic approaches of disciplining wayward students. All schools should embrace guidance and counselling. They should avoid the use of corporal punishment at all costs as they may injure the learner both physically and psychologically. Moreover they have been outlawed by the government.

5.4 Recommendations

The following recommendations for students, teachers, policy makers, curriculum designers and further researchers are made in the sub sections below.

5.4.1 Students

The first objective of this study was to assess the extent in which experience as a source of knowledge advocated by Hume is relevant in the current secondary school education. Since the findings of the study have shown that there is the prejudiced thinking that science practical's are generally difficult to handle amongst many secondary school students in Baringo Central District, the study recommends the demystification of this notion by   teachers and parents. This can be done through regular guidance and counselling of students so that they can be confident that they can do very well in practical oriented assignments and examinations.

5.4.2 Teachers

The second objective of this study was to analyse the level at which Hume's educational aims have been relevant in secondary school education in Baringo Central District. The findings of the study have indicated that secondary schools in the District tend to stress academic excellence more than the inculcation of moral values in students. Hence it is recommended that the Ministry of Education through the quality Assurance and Standard Department should make it compulsory for all secondary school students to take Christian religious studies from first to fourth form. There should be a way of providing certification and promotion to teachers who take the subject of morality seriously.

5.4.3 Policy Makers

The third objective of this study was to evaluate the roles of teachers and students as advocated by Hume and their relevance to what currently goes on in secondary schools in Baringo Central

District. From the findings, of the study it was established that majority of teachers and students enjoy active participatory roles in the teaching and learning process for example through practical's. Therefore there is need for policy makers to allocate more funds to activities which aim at improving experimentation for example the SMASSE programmes in secondary schools. There is need also for the same programme to be expanded to cater for all the subjects taught in secondary schools as it currently only caters for the sciences subjects.

5.4.4 Curriculum Designers

The fourth objective of this study was to find out how the content of the curriculum as advocated by Hume can be made more relevant to the current secondary school curriculum in Baringo Central District. The research findings indicate that majority of the students do not get all the necessary exposure to practical lessons in their day to day learning activities. There is a need therefore for curriculum designers to allocate more time for any teaching programmes which targets promoting the observational skills of students such as field trips, projects, experimentation and excursions. Furthermore the curriculum designers should revisit earlier educational commissions such as the Koech Report (1999) and find a way of implementing it in secondary schools as it is holistic in its approach to education.

5.5 Suggestions for Further Research

In the process of conducting this research pertinent issues arose however because they were outside the scope of the study, they were not investigated. These issues have been suggested as possible areas for further research. They include:

(i)   This study was based on the philosophical theory of empiricism. Further research embracing more than one theory should be undertaken so as to compare with the findings of this study.

(ii)   It is also suggested that further studies be undertaken on the effects of Hume's view on determinism on the academic performance of students in secondary schools in Baringo Central District. This will help determine the general effects of Hume's ideas on students' performance.

(iii)   Lastly, it is suggested that a further research be undertaken in other larger administrative units notably counties or in the whole country so as to enhance the generalisation of the study findings to other wider areas.

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APPENDIX 1: Students Questionnaires (S.Q)

My name is Samuel Kusetei Chepchieng a Master's degree student Egerton University currently undertaking research on Hume's Theory of Knowledge and its relevance to education in Kenya's Secondary schools. Due to your position as a student, I have chosen you to participate in this study. I assure you that the information you shall give will be treated confidentially, and it shall not be used for any other purpose other than the academic use for which it is intended. Please give honest information as required. Thank you very much for your cooperation.

SECTION A

1. Type of school (mixed, boys, girls) tick where appropriate.

2. Location--

3. Class--

4. Sex---

SECTION B (Tick where applicable; Note that SA = Strongly agree, A = Agree, U = Undecided, D = Disagree and SD = Strongly disagree)

Statement	SA	A	U	D	SD
5. I find learning through experimentation very enjoyable.					
6. If I did not come for practical classes for some reason, I would be disappointed.					
7. Laboratory is a happy place for me during lesson time.					
8. Most of the students in my class enjoy experiments as a method of teaching					
9. I find it difficult to handle science practical.					
10. I am confident of doing very well in science oriented assignments and examinations.					
11. There is need for my subject teacher to use experimentation as a method of teaching.					
12. In most cases students in our school encounter practical apparatus for the first time during examination period.					
13. We often engage in group discussion during lesson time in class.					
14. Most students in our school have study groups where they discuss academic issues during lesson time and preps time.					
15. I tend to benefit more from group discussion than private reading and study.					
16. During lesson time in my class most teachers use lecture method					
17. Teachers always allow students to be actively involved in every lesson taught in class.					
18. In my class in most cases during lesson the learning process is student centred and the role of the teacher is just to facilitate learning.					

19. It is frequent for teachers in my school to teach most of the subject content and the students just sit down and listen to the teacher.				
20. Wrong doers are never caned in our school.				
21. Guidance and counselling is the main method used to instil morality in our school.				
22. There are peer group counsellors in our school to assist in guiding and counselling their fellow students.				
23. In our school it is common for wrong doers to be scolded by teachers.				
24. Our teachers never call us names or yell at us students whenever we do wrong.				
25. My teachers often criticise students or humiliate them in front of other students.				
26. I am sure that if I do wrong in my school I would be caned by teachers.				
27. It is common for students to be suspended or expelled for breaking school rules in our school.				
28. Morality is stressed more than academic excellence in our school.				
29. My school often rewards morally upright students.				
30. If asked to identify a role model to emulate in my school most students would choose one of the teachers in their school.				
31. The morality of most students in our school tends to be influenced more by politicians and media stars than teachers				
32. Secondary education prepares learners to adequately solve emerging issues in the society.				

33. Explain how

(a) Teachers can assist students to achieve their talents

(b) Teachers can assist students to acquire moral values

(c) Hume's theory has influenced education in your school

My name is Samuel Kusetei Chepchieng a Master's degree student Egerton University, currently undertaking research on Hume's Theory of Knowledge and its Relevance to Education in Kenya's Secondary schools. Due to your position as the H.O.D in the department, I have chosen you to participate in this study. I assure you that the information you shall give will be treated confidentially. It shall not be used for any other purpose other than the academic use it is intended. Please give honest information as required. Thank you very much for your participation.

SECTION A

1. Type of school (mixed, boys, girls) tick where appropriate.

2. Department_____

3. Teaching Subjects _____

4. Number of teaching years_____

SECTION B (Tick where applicable; Note that SA = Strongly agree, A = Agree, U = Undecided, D = Disagree and SD = Strongly disagree)

Statement	SA	A	U	D	SD
5. I find teaching through experimentation very enjoyable.					
6. If I could not come to practical classes for some reason, I would be disappointed.					
7. Laboratory is a happy place for me during lesson time.					
8. Most of the students in my class enjoy experiments as a method of teaching.					
9. I find it difficult to teach science practical.					
10. I am confident that my students would do very well in practical oriented assignments and examinations.					
11. There is need for every teacher in my department to use experimentation where possible as a method of teaching.					
12. Teachers tend to expose students to practical apparatus in most cases only during examination					
13. We often engage our students in group discussion during lesson time in class.					
14. Most students in our school have study groups where they discuss academic issues during lesson time and preps time.					
15. Students tend to benefit more from group discussion than private reading and study.					
16. Lecture method is commonly used by most teachers in our school when teaching					
17. Teachers in our school; always allow their students to be actively involved in every lesson they teach in class.					

18. In my department in most cases during lesson time the learning process is student centred and the role of the teacher is just to guide learning process.				
19. It is common for teachers in my school to teach most of the subject content and the students just sit down and listen to the teacher.				
20. Wrong doers are never caned in our school.				
21. Guidance and counselling is the main method used to instil morality in our school.				
22. There are peer group counsellors in our school to assist in guiding and counselling their fellow students.				
23. It is common for wrong doers to be scolded by teachers.				
24 Teachers never call students names or yell at students whenever they do wrong our school.				
25. Teachers often criticise students or humiliate them in front of other students.				
26. I am sure that if any of my colleagues find a student on the wrong he /she would cane that particular student.				
27. It is common for students to be suspended or expelled for breaking school rules in our school.				
28. Morality is stressed more than academic excellence in our school.				
29. My school often rewards morally upright students.				
30. If asked to identify a role model to emulate in my school most students would choose one of us teachers in this school.				
31. The morality of most students in our school tends to be influenced more by politicians and media stars than teachers.				
32. Secondary school education prepares learners to adequately handle emerging issues after school.				

33. Explain how

  (a) Teachers can assist students to achieve their talents

 (b) Teachers can assist students to acquire moral values

 (c) Hume's theory has influenced education in your school

Activity	Parameter (To be ticked by the researcher)	Comments
Teachers role	Allows learners participation through: • Stage setting • Directing learning • Guiding and controlling learning • Questioning learners • Marking students work • Others_____ _____	
	No learners participation • Uninterested in learning • Interested • Others_____	
Teaching methods	• Experimentation • Lecture • Role play • Dramatisation • Discussion • Apprenticeship • Others_____	
Learners activities	Participate actively: • Asking and answering questions • Conducting experiments • Note taking • Discussing in groups • Others_____ Passive in class	
Learning facilities	• Appropriate • Inappropriate • Others _____	
Learners Teachers interaction	• Effective • Ineffective • Others _____	
Inculcation of moral values	• Guidance and Counselling • Scolding • Caning • Reward and punishment • Withdrawal of privileges • Others	

APPENDIX 4: Research Authorisation Permit

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349
254-020-310571, 2213123, 2219420
Fax: 254-020-318245, 318249
When replying please quote
secretary@ncst.go.ke

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: **NCST/RCD/14/012/128/4**

24ᵗʰ February, 2012
Date:

Samuel Kusetei Chepchieng
Egerton University
P. O. Box 536 – 20115
EGERTON, NJORO

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"David Hume's Theory of knowledge & its relevance to education in Kenya's secondary schools with a special reference to Baringo district, Kenya"* I am pleased to inform you that you have been authorized to undertake research **in Baringo district** for a period ending *31ˢᵗ December 2012.*

You are advised to report to **the District Commissioner & the District Education Officer, Baringo district** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy** - pdf of the research report/thesis to our office.
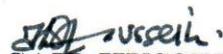
SAID HUSSEIN
FOR: SECRETARY/CEO

Copy to:

The District Commissioner
Baringo district

The District Education Officer
Baringo district

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